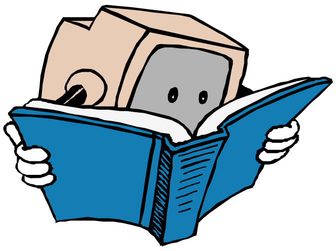
HITACHI

SM003

32PD3000E
42PD3000E



SERVICE MANUAL
MANUEL D'ENTRETIEN
WARTUNGSHANDBUCH

CAUTION:

Before servicing this chassis, it is important that the service technician read the "Safety Precautions" and "Product Safety Notices" in this service manual.

ATTENTION:

Avant d'effectuer l'entretien du châassis, le technicien doit lire les «Précautions de sécurité» et les «Notices de sécurité du produit» présentés dans le présent manuel.

VORSICHT:

Vor Öffnen des Gehäuses hat der Service-Ingenieur die „Sicherheitshinweise" und „Hinweise zur Produktsicherheit" in diesem Wartungshandbuch zu lesen.

Data contained within this Service manual is subject to alteration for improvement.

Les données fournies dans le présent manuel d'entretien peuvent faire l'objet de modifications en vue de perfectionner le produit.

Die in diesem Wartungshandbuch enthaltenen Spezifikationen können sich zwecks Verbesserungen ändern.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

Plasma TV

October 2002

Safety

ENGLISH

SAFETY PRECAUTIONS

WARNING: The following precautions must be observed.

ALL PRODUCTS

Before any service is performed on the chassis an isolation transformer should be inserted between the power line and the product.

1. When replacing the chassis in the cabinet, ensure all the protective devices are put back in place.
2. When service is required, observe the original lead dressing. Extra precaution should be taken to ensure correct lead dressing in any high voltage circuitry area.
3. Many electrical and mechanical parts in HITACHI products have special safety related characteristics. These characteristics are often not evident from visual inspection, nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified by marking with a ! on the schematics and the replacement parts list. The use of a substitute replacement component that does not have the same safety characteristics as the HITACHI recommended replacement one, shown in the parts list, may create electrical shock, fire, X-radiation, or other hazards.
4. Always replace original spacers and maintain lead lengths. Furthermore, where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Insulation resistance should not be less than 2M ohms at 500V DC between the main poles and any accessible metal parts.
6. No flashover or breakdown should occur during the dielectric strength test, applying 3kV AC or 4.25kV DC for two seconds between the main poles and accessible metal parts.
7. Before returning a serviced product to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock. The service technician must make sure that no protective device built into the instrument by the manufacturer has become defective, or inadvertently damaged during servicing.

CE MARK

1. HITACHI products may contain the CE mark on the rating plate indicating that the product contains parts that have been specifically approved to provide electromagnetic compatibility to designated levels.
2. When replacing any part in this product, please use only the correct part itemised in the parts list to ensure this standard is maintained, and take care to replace lead dressing to its original state, as this can have a bearing on the electromagnetic radiation/immunity.

PICTURE TUBE

1. The line output stage can develop voltages in excess of 25kV; if the E.H.T. cap is required to be removed, discharge the anode to chassis via a high value resistor, prior to its removal from the picture tube.
2. High voltage should always be kept at the rated value of the chassis and no higher. Operating at higher voltages may cause a failure of the picture tube or high voltage supply, and also, under certain circumstances could produce X-radiation levels moderately in excess of design levels. The high voltage must not, under any circumstances, exceed 29kV on the chassis (except for projection Televisions).
3. The primary source of X-radiation in the product is the picture tube. The picture tube utilised for the above mentioned function in this chassis is specially constructed to limit X-radiation. For continued X-radiation protection, replace tube with the same type as the original HITACHI approved type
4. Keep the picture tube away from the body while handling. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn. People not so equipped should be kept away while picture tubes are handled

LASERS

If the product contains a laser avoid direct exposure to the beam when the cover is open or when interlocks are defeated or have failed.

FRANÇAIS

CONSIGNES DE SECURITE

AVERTISSEMENT: vous devez respecter les précautions suivantes

POUR TOUS LES PRODUITS Avant d'effectuer une intervention d'entretien sur le châssis, vous devez insérer un transformateur d'isolement entre la ligne d'alimentation électrique et le produit.

1. Lors de la remontage du châssis dans le coffret, vérifiez que tous les dispositifs de protection sont remis en place.
2. Lorsqu'une intervention d'entretien s'avère nécessaire, respectez l'agencement d'origine des conducteurs. Vous devez prendre des precautions supplémentaires pour garantir un agencement correct des conducteurs dans toutes les zones où des circuits haute tension sont présents.
3. De nombreux composants électriques et mécaniques des appareils HITACHI ont des caractéristiques spéciales de sécurité. Bien souvent, ces caractéristiques ne sont pas évidentes lors d'un examen visuel et la protection qu'ils offrent n'est pas forcément garantie si vous utilisez des composants de rechange conçus, par exemple, pour une tension plus élevée, une puissance plus forte. Les pièces de rechange qui offrent des caractéristiques spéciales de sécurité sont identifiées par un repérage comportant le symbole ! sur les schémas et sur la nomenclature des pièces de rechange. L'emploi d'un composant de rechange qui ne respecte pas les mêmes caractéristiques de sécurité que la pièce de rechange que recommande HITACHI et qui figure dans la nomenclature risque de provoquer un choc électrique, un incendie, des rayons X ou d'autres dangers.
4. Remettez toujours en place les entretoises d'origine et respectez la longueur des conduites. En outre, à la suite d'un court-circuit, remplacez les composants présentant des signes de surchauffe.
5. La résistance d'isolement doit être supérieure ou égale à 2 méga ohms à 500 V c.c. entre les poles principaux et des composants métalliques accessibles, quels qu'ils soient.
6. Aucun claquage et aucune rupture ne doit se produire pendant l'essai de résistance diélectrique à la suite de l'application d'une tension de 3 kV c.a. ou de 4,35 kV c.c. pendant deux secondes entre les poles principaux et des composants métalliques accessibles.
7. Avant de remettre au client un produit qui a fait l'objet d'un entretien, le technicien qui s'est chargé de cette intervention doit tester à fond cet ensemble pour s'assurer qu'il ne présente aucun danger opérationnel et aucun risque de choc électrique. Ce technicien doit s'assurer qu'aucun des dispositifs de protection intégrés à cet instrument par le fabricantn'est défectueux ou n'a été endommagé de façon accidentelle lors de l'entretien. suivantes

LABEL CE

1. Les produits HITACHI peuvent avoir reçu le label CE qui figure sur la plaque signalétique pour indiquer que cet ensemble contient des composants qui ont fait l'objet d'une homologation spécifique de respect des normes de compatibilité électromagnétique en fonction de niveaux bien spécifiés.
2. Lors du remplacement d'un des composants de ce produit, utilisez uniquement le composant correct identifié dans la nomenclature afin de maintenir le respect de cette norme ; en outre, vous devez également ramener l'agencement des conducteurs à son état d'origine car cela peut avoir une influence au niveau des rayonnements électromagnétiques et sur la protection contre ces rayons.

PICTURE TUBE

1. L'étage de sortie des lignes peut développer des tensions de plus de 25 kV ; s'il faut retirer le chapeau de protection contre les tensions extrêmement élevées, il convient de décharger l'anode contre le châssis par le biais d'une résistance de forte valeur avant de déposer ce chapeau du tube image.
2. La haute tension doit toujours se maintenir à la valeur nominale du châssis et ne pas dépasser cette dernière. Un fonctionnement à des températures élevées peut provoquer une défaillance du tube image ou l'entrée d'une tension élevée. Dans certains cas, cela peut même provoquer des rayons X d'un niveau légèrement supérieur aux valeurs de calcul. Cette haute tension ne doit en aucun cas dépasser 29 kV sur le châssis (à l'exception des téléviseurs de projection).
3. La principale source de rayons X de cet appareil est le tube image. Le tube image employé pour assurer la fonction susmentionnée dans ce châssis est spécialement construit pour limiter des rayons X. Pour maintenir cette protection contre les rayons X, il faut remplacer le tube d'origine d'un type agréé par HITACHI par un autre tube de même type.
4. Lors des manipulations, ne tenez jamais le tube image contre le corps. Pendant toutes les operations d'installation, de dépose et de manipulation de ce tube image, quelle que soit la méthode employée, vous devez toujours porter des lunettes de sécurité anti-éclatements. Les personnes qui ne portent pas ce type de lunettes doivent se tenir à l'écart du tube image lors de la manipulation de ce dernier.

RAYONS LASER

Si ce produit contient un rayon laser, évitez toute exposition directe à ce faisceau lors de l'ouverture du couvercle ou lors de l'élimination des verrouillages de sécurité ou après défaillance de ces verrouillages.

DEUTSCH

SICHERHEITSVORKEHRUNGEN

WARNUNG: Die folgenden Vorkehrungen müssen eingehalten werden.

ALLE PRODUKTE Bevor die Grundplatte gewartet wird, sollte ein Trenntrafo zwischen die Netzleitung und das Produkt eingebracht werden.

1. Wenn die Grundplatte in das Gehäuse zurückgestellt wird, stellen Sie sicher, dass alle Schutzvorrichtungen wieder an ihrem Ort sind.
2. Wenn Wartung erforderlich ist, halten Sie die originale Verdrahtungsart ein. Besondere Vorsicht ist nötig, um die korrekte Verdrahtungsart in jedem Hochspannungsstromkreis zu gewährleisten.
3. Viele elektrische und mechanische Teile von HITACHI Produkten haben besondere sicherheitsbezogene Eigenschaften. Diese Eigenschaften fallen oft nicht ins Auge, aber der durch sie gewährte Schutz kann nicht unbedingt erreicht werden, wenn man Ersatzteile benutzt, die für höhere Spannung, Leistung usw. ausgelegt sind. Ersatzteile, die diese besonderen Sicherheitsmerkmale haben, sind in den Prinzipskizzen und Ersatzteillisten an einem ! zu erkennen. Der Gebrauch von Ersatzteilen, die nicht dieselben Sicherheitsmerkmale haben wie die empfohlenen HITACHI Ersatzteile, wie sie in der Ersatzteilliste aufgeführt sind, kann zu elektrischem Schlag, Feuer, Röntgenstrahlung und anderen Gefahren führen.
4. Immer die originalen Abstandsstücke ersetzen und die Leitungslängen beibehalten. Wo ein Kurzschluss passiert ist, die Teile ersetzen, bei denen Überhitzung nachzuweisen ist.
5. Der Isolierwert sollte bei 500 V Gleichstrom zwischen den Hauptpolen und allen zugänglichen Metallteilen nicht unter 2M Ohm liegen.
6. Bei der Prüfung auf Durchschlagsfestigkeit sollte kein Überschlag oder Durchschlag vorkommen, wenn zwei Sekunden lang 3 kV Wechselstrom oder 4,25 kV Gleichstrom zwischen den Hauptpolen und allen zugänglichen Metallteilen angelegt wird.
7. Bevor das gewartete Produkt dem Kunden zurückgegeben wird, muss der Wartungstechniker das Gerät gründlich prüfen, um sicherzustellen, dass es betriebssicher ist ohne das Risiko eines elektrischen Schlages. Der Wartungstechniker muss sicherstellen, dass keine vom Hersteller im Gerät eingebaute Schutzvorkehrung schadhaft geworden ist oder bei der Wartung unabsichtlich beschädigt wurde.

CE KENNZEICHEN

1. HITACHI Produkte enthalten eventuell das CE Kennzeichen auf dem Leistungsschild, welches angibt, dass das Produkt Teile enthält, die eigens zugelassen sind, um bis zu einem spezifizierten Niveau elektromagnetische Störfreiheit zu bewirken.
2. Wenn Sie irgendein Teil in diesem Produkt ersetzen, benutzen Sie bitte nur das korrekte Teil, das in der Ersatzteilliste aufgeführt ist, um sicherzustell en, dass dieser Standard eingehalten wird, und geben Sie acht, die Verdrahtungsart in ihren ursprünglichen Zustand zurück zu versetzen, weil das einen Einfluss auf die elektromagnetische Abstrahlung/Störsicherheit haben kann.

BILDRÖHRE

1. Die Leitungsausgangsstufe kann Spannungen von mehr als 25 kV entwickeln; wenn die Höchstspannungskappe entfernt werden muss, entladen Sie die Anode zum Gehäuse über einen hochohmigen Widerstand, bevor Sie sie aus der Bildröhre entfernen.
2. Hochspannung sollte immer auf den festgelegten Wert des Gehäuses beschränkt bleiben und nicht mehr. Betrieb bei höherer Spannung kann zum Versagen der Bildröhre oder zu hoher Spannungszufuhr führen und kann unter Umständen auch Röntgenstrahlung hervorbringen, die leicht über dem Konstruktionsniveau liegt. Die Hochspannung darf auf keinen Fall 29 kV am Gehäuse überschreiten (außer bei Projektionsfernsehern).
3. Die Hauptquelle der Röntgenstrahlung im Produkt ist die Bildröhre. Die Bildröhre, die für die oben erwähnte Funktion in diesem Gehäuse benutzt wird, ist eine Spezialkonstruktion zur Begrenzung der Röntgenstrahlung. Um den Schutz vor der Röntgenstrahlung zu behalten, ersetzen Sie bitte die Röhre durch denselben Typ wie den ursprünglichen von HITACHI zugelassenen.
8. Halten Sie die Bildröhre bei der Handhabung vom Körper weg. Sie dürfen die Bildröhre nur dann installieren, entfernen oder handhaben, wenn Sie eine nicht splitternde Schutzbrille tragen. Personen ohne
derartigen Schutz sollten ferngehalten werden, solange Bildröhren gehandhabt werden.

LASER

Wenn das Produkt einen Laser enthält, setzen Sie sich keinesfalls direkt dem Strahl aus, wenn die Abdeckung geöffnet ist oder wenn die Verriegelung versagt.

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Lead Free Solder

This product uses lead free (unleaded) solder to help preserve the environment. Please read these instructions before attempting any soldering work.

Caution: Always wear safety glasses to prevent fumes or molten solder from getting into the eyes. Lead free solder can splatter at high temperatures (600 °C).

- **Lead free solder indicator**
  Printed circuit board Assemblies using lead free solder shown below are engraved with an "F" following Board Name.
- **Properties of lead free solder**
  The melting point of lead free solder is 40-50 °C higher than one of leaded solder.
- **When servicing solder**
  - Solder with an alloy composition of Sn-3.0Ag-0.5Cu or Sn-0.7Cu is recommended.
  - Although servicing with leaded solder is possible, there are a few precautions that have to be taken.(Not taking these precautions may cause the solder not to harden properly and lead to consequent malfunctions.)
- **Precautions when using leaded solder**
  - Remove all lead free solder from soldered joints when replacing components.
  - If leaded solder should be added to existing lead free joints, mix in the leaded solder thoroughly after the lead free solder has been completely melted (do not apply the soldering iron without adding solder).

When servicing soldering iron

A soldering iron with a temperature setting capability (temperature control function)is recommended.
The melting point of lead free solder is higher than one of leaded solder. Use a soldering iron that maintains a high stable temperature (large heat capacity),and that allows temperature adjustment according to the part being serviced, to avoid poor servicing performance.

Recommended soldering iron:

Soldering iron with temperature control function (temperature range:320-450 °C)

Recommended temperature range per part:

Soldering Part	Soldering iron temperature
PCB with surface mount devices	320 °C ±30 °C
PCB without surface mount devices	380 °C ±30 °C
Chassis, metallic shield, etc.	420 °C ±30 °C

PCBs which use lead free solder

- FC4PDP board (AVC block)
- SIGNAL/SOUND board (MONITOR block)
- SP terminal L/R board, FILTER board, LED board (MONITOR block)

Specifications

General Specifications

Item	**Spec**	
	32PD3000 (PDP;32PD3000E+AVC;AV3000E)	**42PD3000 (PDP;42PD3000E+AVC;AV3000E)**
PDP panel	32" (ALSI for mat) Plasma display panel (16:9) , resolution 852(H) x1024(V)	42" (ALSI for mat) Plasma display panel (16:9) , resolution 1024(H) x1024(V)
Display size	976(W) x 258(D) x 580(H) unit: mm	1233(W) x 300(D) x 713(H) unit: mm
Sound output level	Max. 10W x 2 (6 ohm)	Max. 12W x 2 (6 ohm)
Speaker	4 x 16 cm corn type x 2	???
Power supply	AC 220 - 240 V 50Hz	AC 220 - 240 V 50Hz
Power consumption	PDP 260W (stand-by <2W) AVC 30W, (stand-by <2W)	PDP 360W (stand-by <2W) AVC 30W, (stand-by <2W)
Colour system	PAL/SECAM/NTSC4.43/NTSC3.58/PAL60	PAL/SECAM/NTSC4.43/NTSC3.58/PAL60
Sound system	I/B.G.H/LL'	I/B.G.H/LL'
Tuning freq.	45MHz ~ 889MHz, VHF low/VHF high/Hyper/UHF	45MHz ~ 889MHz, VHF low/VHF high/Hyper/UHF
Position selection	100 (0~99) positions. Plus channel direct (C--/S--) and frequency direct (---.--MHz)	100 (0~99) positions. Plus channel direct (C--/S--) and frequency direct (---.--MHz)
PC input signal	Horizontal freq. 24KHz ~ 109KHz / Vertical freq. 50Hz ~ 85Hz	Horizontal freq. 24KHz ~ 109KHz / Vertical freq. 50Hz ~ 85Hz
	Analogue RGB, input voltage 0.7Vpp/1.0Vpp selectable	Analogue RGB, input voltage 0.7Vpp/1.0Vpp selectable
	H/V separate sync (TTL level) *** sound input ; common with AV3 or AV4	H/V separate sync (TTL level) *** sound input ; common with AV3 or AV4
AV input	SCART101 (CVBS/SVHS/LR sound) - AV1	SCART101 (CVBS/SVHS/LR sound) - AV1
	SCART102 (CVBS/RGB/LR sound) - AV2	SCART102 (CVBS/RGB/LR sound) - AV2
	SCART100 (CVBS/RGB/LR sound) - AV3	SCART100 (CVBS/RGB/LR sound) - AV3
	COMPONENT (YPbPr/YCbCr/LR sound) - AV4	COMPONENT (YPbPr/YCbCr/LR sound) - AV4
	Front AV (CVBS/SVHS/LR sound) - FRONT	Front AV (CVBS/SVHS/LR sound) - FRONT
	CENTRE AUDIO input	CENTRE AUDIO input
Dimensions	PDP : 974(W) x 256(D) x 578(H) including monitor stand unit: mm	PDP : 1030(W) x ??(D) x 636(H) including monitor stand unit: mm
	AVC : 430(W) x 293(D) x 121(H) unit: mm	AVC : 430(W) x 293(D) x 121(H) unit: mm
Weight	PDP : 28.7kg (net)	PDP : 40.2kg (net)
	AVC : 3.2kg (net)	AVC : 3.2kg (net)
Remote control batteries	2 x Hitachi R6P(G) * equivalent 'AA'	2 x Hitachi R6P(G) * equivalent 'AA'

Features ;

852x1024 resolution,	Created by 32" ALIS Plasma display panel
1024x1024 resolution,	Created by 37/42" ALIS Plasma display panel
Advanced progressive & 1024 interlace,	Which materializes detailed picture without flicker
TruBass by SRS,	Which gives real bass sound
Thin (9cm) and light,	By separating monitor from tuner box (AVC). It is possible to hang monitor on the wall.
Swivel stand attached monitor,	Which is possible to swivel at 30deg toward left and right.
3 Scarts connectors plus front AV input,	Which can be connected with DVD, Set Top Box, VCR and Camera at the same time.
1 Component input,	Which allows YPbPr and PCbCr to be received. Signal is automatically identified.
PC input connection,	Supporting various PC display format.

Service Data

Soft version			issue 1		New panel			01-Nov-02	V1.A4		
🟦	back ground CYAN means to separate data on each 32/37/42"							RED figures are new default values			
1st	2nd	3rd	4th	5th	32" values hex	37" values hex	42" values hex	functions	Device		
SVC>	TUN>	ADC			read	read	read	AGC data			
		OPT			80	80	80	option for destination			
		AGC			adj	adj	adj	AGC adjustment			
		BIF			adj	adj	adj	AFC adjustment for all except L'			
		LIF			adj	adj	adj	AFC adjustment for L'			
		AFC			read	read	read	AFC level indication			
	PC>	PC1>	GSW		01	01	01	gamma switch	PDP	10	D3:D2
			BLP		7F	7F	7F	Black Level (RGB);user brightness control for PC	FC4	5	D07:D00
			COP		7F	7F	7F	Contrast (RGB)	FC4	6	D07:D00
		PC2>	MBC		7F	7F	7F	main brightness centre	FC4	7	D15:D08
			MCC		5D	5D	5D	main contrast centre	FC4	7	D07:D00
			MXB		6C	6C	6C	brightness Max. for wide NORMAL/REAL	FC4	7	D15:D08
			BGP		00	00	00	Brightness/Gradation	PDP	27&28	D2&D2
			CCP		00	00	00	NTSC/EBU	PDP	27&28	D1&D1
			DCP		01	01	01	Tracking correction	PDP	27&28	D0&D0
		PC3>	PSE		01	01	01	PC power save enable/disable	FC4	4	D08
			PST		0F	0F	0F	power save timer			
	SIG>	FLA			OK	OK	OK	**CAUTION !! Never press OK unless proper signal is displayed.** auto signal level adjustment activates.			
		MAX			read	read	read	MAX signal level on screen			
		MIN			read	read	read	min. signal level on screen			
		SNR			read	read	read	FC noise level indication			
	MIS>	RGB >	COL>	R1	read	read	read	Gain R ; warm	PDP Read/Write	13/20	1st D7:D0 / D7:D0
				G1	read	read	read	Gain G ; warm	PDP Read/Write	13/21	2nd D7:D0 / D7:D0
				B1	read	read	read	Gain B ; warm	PDP Read/Write	13/22	3rd D7:D0 / D7:D0
			NOM>	R2	read	read	read	Gain R ; normal	PDP Read/Write	12/17	1st D7:D0 / D7:D0
				G2	read	read	read	Gain G ; normal	PDP Read/Write	12/18	2nd D7:D0 / D7:D0
				B2	read	read	read	Gain B ; normal	PDP Read/Write	12/19	3rd D7:D0 / D7:D0
			WAM>	R3	read	read	read	Gain R ; cool	PDP Read/Write	11/14	1st D7:D0 / D7:D0
				G3	read	read	read	Gain G ; cool	PDP Read/Write	11/15	2nd D7:D0 / D7:D0
				B3	read	read	read	Gain B ; cool	PDP Read/Write	11/16	3rd D7:D0 / D7:D0
			GSW		01	01	01	gamma switch	PDP	10	D3:D2
			WHB		00	00	00	white balance 0;cool, 1;normal, 2;warm --- synchronizing with user operation MENU	PDP	9	D3:D2&D1:D0
			HAPC		01	01	01	Q.MODE + Heat APC	PDP	28	D4:D3
			BRN		01	01	01	burn in mode	PDP	10	D5:D4

1st	2nd	3rd	4th	5th	32" values hex	37" values hex	42" values hex	functions	Device		
			APC		**00**	**00**	**00**	APC switch 0;High APC, 1;Normal	PDP	10	D7
		MI0>	**M01>**	**F01(4:3)**	**01**	**01**	**01**	wide mode selected by 16:9 key (0;on, 1;off)	4:3		
				F02(16:9)	**00**	**00**	**00**	wide mode selected by 16:9 key (0;on, 1;off)	WIDE SCREEN		
				F03(C16:9L)	**00**	**00**	**00**	wide mode selected by 16:9 key (0;on, 1;off)	LETTERBOX		
*** MAX 8 items on one page.				**F04(T16:9L)**	**01**	**01**	**01**	wide mode selected by 16:9 key (0;on, 1;off)	T16:9L		
				F05(14:9)	**01**	**01**	**01**	wide mode selected by 16:9 key (0;on, 1;off)	14:9		
			M02>	**F06(C14:9L)**	**00**	**00**	**00**	wide mode selected by 16:9 key (0;on, 1;off)	C14:9L		
				F07(T14:9L)	**01**	**01**	**01**	wide mode selected by 16:9 key (0;on, 1;off)	T14:9L		
				F08(PAN)	**01**	**01**	**01**	wide mode selected by 16:9 key (0;on, 1;off)	PANORAMIC		
				F09(14:9LS)	**00**	**00**	**00**	wide mode selected by 16:9 key (0;on, 1;off)	14:9 ZOOM		
				PCA	**02**	**02**	**02**	PC wide mode 0;NORMAL, 1;REAL, 2;FULL	FC4	3	D17:D16
		*** LTI ***	**M03>**	**HE1**	**02**	**02**	**02**	Horizontal enhancer DYNAMIC	FC4	2	D20:D19
		picture mode		**HE2**	**03**	**03**	**03**	Horizontal enhancer DYNAMIC-VIDEO	FC4	2	D20:D19
				HE3	**00**	**00**	**00**	Horizontal enhancer NATURAL	FC4	2	D20:D19
				HE4	**00**	**00**	**00**	Horizontal enhancer NATURAL-VIDEO	FC4	2	D20:D19
				HE5	**01**	**01**	**01**	Horizontal enhancer CINEMA	FC4	2	D20:D19
				HE6	**02**	**02**	**02**	Horizontal enhancer CINEMA-VIDEO	FC4	2	D20:D19
				HET	**00**	**00**	**00**	**Horizontal enhancer TEXT**	FC4	2	D20:D19
		*** LTI ***	**M04**	**VE1**	**03**	**03**	**03**	Vertical enhancer DYNAMIC	FC4	2	D22:D21
		picture mode		**VE2**	**03**	**03**	**03**	Vertical enhancer DYNAMIC-VIDEO	FC4	2	D22:D21
				VE3	**03**	**03**	**03**	Vertical enhancer NATURAL	FC4	2	D22:D21
				VE4	**03**	**03**	**03**	Vertical enhancer NATURAL-VIDEO	FC4	2	D22:D21
				VE5	**03**	**03**	**03**	Vertical enhancer CINEMA	FC4	2	D22:D21
				VE6	**03**	**03**	**03**	Vertical enhancer CINEMA-VIDEO	FC4	2	D20:D19
				VET	**00**	**00**	**00**	**Vertical enhancer TEXT**	FC4	2	D22:D21
			M05>	**BGT**	**00**	**00**	**00**	Brightness/Gradation	PDP	27&28	D2&D2
				CCT	**00**	**00**	**00**	NTSC/EBU	PDP	27&28	D1&D1
				TCR	**01**	**01**	**01**	Tracking correction W/B Warm & Norm	PDP	27&28	D0&D0
				DCC	**00**	**00**	**00**	Tracking correction W/B Cool	PDP	27&28	D0&D0
				WBC	**00**	**00**	**00**				
				BSO	**1F**	**1F**	**1F**	Black Stretch gain offset ON&MID	FC4	7	D21:D16
		*** "PDP2_service05" no.52		**SPC**	**00**	**00**	**00**	PinP(PC W) picture contrast offset	FC4	7	D07:D00
			M06>	**PHC**	**80**	**80**	**80**	Colour phase centre	FC4	8	D07:D00
				PHU	**1A**	**1A**	**1A**	PAL HUE offset (not available if AV2 is RGB)	FC4	8	D07:D00
				NHU	**20**	**20**	**20**	NTSC HUE offset	FC4	8	D07:D00
				YU6	**1D**	**1D**	**1D**	YCbCr / YPbPr @ 60Hz HUE offset	FC4	8	D07:D00

1st	2nd	3rd	4th	5th	32" values hex	37" values hex	42" values hex	functions	Device		
				YU5	**1A**	**1A**	**1A**	YCbCr / YPbPr @ 50Hz HUE offset	FC4	8	D07:D00
				THU	**1F**	**1F**	**1F**	TEXT HUE offset	FC4	8	D07:D00
				YHU	**1F**	**1F**	**1F**	Components Hue for Asian option	FC4	8	D07:D00
				FPB	**00**	**00**	**00**	FAVOURITE Peak Brightness 0;Peak, 1:Normal	PDP	10	D6
		MI1>	**M11>**	**BLT**	**7F**	**7F**	**7F**	Black level (RGB)	FC4	5	D07:D00
				MBC	**80**	**80**	**80**	main brightness centre : (50) is used in AUTO adjustment	FC4	7	D15:D08
				MBX	**80**	**80**	**80**	brightness centre TEXT	FC4	7	D15:D08
				COT	**7F**	**7F**	**7F**	Contrast (RGB)	FC4	6	D07:D00
				MCC	**89**	**89**	**89**	main contrast centre	FC4	7	D07:D00
				MCX	**70**	**70**	**70**	contrast centre TEXT	FC4	7	D07:D00
				SAC	**40**	**40**	**40**	Saturation centre NTSC/PAL/RGB/YCbCr TV	FC4	8	D14:D08
				SAX	**50**	**50**	**50**	Saturation centre TEXT	FC4	8	D14:D08
		*** CTI ***	**M12>**	**CE1**	**1F**	**1F**	**1F**	C-Vert/Horiz enhancer gain DYNAMIC-TV	FC4	2	D12:D08
		picture mode		**CE2**	**10**	**10**	**10**	C-Vert/Horiz enhancer gain DYNAMIC-VIDEO	FC4	2	D12:D08
				CE3	**1F**	**1F**	**1F**	C-Vert/Horiz enhancer gain NATURAL-TV	FC4	2	D12:D08
				CE4	**10**	**10**	**10**	C-Vert/Horiz enhancer gain NATURAL-VIDEO	FC4	2	D12:D08
				CE5	**1F**	**1F**	**1F**	C-Vert/Horiz enhancer gain CINEMA-TV	FC4	2	D12:D08
				CE6	**10**	**10**	**10**	C-Vert/Horiz enhancer gain CINEMA-VIDEO	FC4	2	D12:D08
				CET	**10**	**10**	**10**	C-Vert/Horiz enhancer gain TEXT	FC4	2	D12:D08
				YET	**00**	**00**	**00**	**sharpness centre - TEXT**	FC4	2	D04:D00
			M13>	**YE1**	**1F**	**1F**	**1F**	sharpness DYNAMIC-TV	FC4	2	D04:D00
				YE2	12	12	12	sharpness DYNAMICT-VIDEO	FC4	2	D04:D00
				YE3	**12**	**12**	**12**	sharpness NATURAL-TV	FC4	2	D04:D00
				YE4	**12**	**12**	**12**	sharpness NATURAL-VIDEO	FC4	2	D04:D00
				YE5	**12**	**12**	**12**	sharpness CINEMA-TV	FC4	2	D04:D00
				YE6	**12**	**12**	**12**	sharpness CINEMA-VIDEO	FC4	2	D04:D00
				YE7	**12**	**12**	**12**	sharpness centre-FAVOURITE-TV	FC4	2	D04:D00
				YE8	**12**	**12**	**12**	sharpness centre-FAVOURITE-VIDEO	FC4	2	D04:D00
		*** YNR ***	**M14>**	**YI1**	**01**	**01**	**01**	YNR input gain DYNAMIC	FC4	2	D07:D05
		picture mode		**YI2**	**01**	**01**	**01**	YNR input gain DYNAMIC-VIDEO	FC4	2	D07:D05
				YI3	**01**	**01**	**01**	YNR input gain NATURAL	FC4	2	D07:D05
				YI4	**01**	**01**	**01**	YNR input gain NATURAL-VIDEO	FC4	2	D07:D05
				YI5	**01**	**01**	**01**	YNR input gain CINEMA	FC4	2	D07:D05
				YI6	**01**	**01**	**01**	YNR input gain CINEMA-VIDEO	FC4	2	D07:D05
				YIT	**01**	**01**	**01**	**YNR input gain TEXT**	FC4	2	D07:D05
		*** CNR ***	**M15>**	**CI1**	**00**	**00**	**00**	CNR input gain DYNAMIC	FC4	2	D15:D13
		picture mode		**CI2**	**00**	**00**	**00**	CNR input gain DYNAMIC-VIDEO	FC4	2	D15:D13
				CI3	**00**	**00**	**00**	CNR input gain NATURAL	FC4	2	D15:D13
				CI4	**00**	**00**	**00**	CNR input gain NATURAL-VIDEO	FC4	2	D15:D13
				CI5	**00**	**00**	**00**	CNR input gain CINEMA	FC4	2	D15:D13

1st	2nd	3rd	4th	5th	32" values hex	37" values hex	42" values hex	functions	Device		
				CI6	00	00	00	CNR input gain CINEMA-VIDEO	FC4	2	D15:D13
				CIT	00	00	00	**CNR input gain TEXT**	FC4	2	D15:D13
			M16	OSH	109	109	109	H position - OSD			
				OSV	40	40	40	V position - OSD			
				OTH	190	190	190	H position - TEXT			
				OTV	40	40	40	V position - TEXT			
				SUR	00	00	00	SURROUND ON:1, OFF:0			
				CMB	01	01	01	COMB FILTER ON:1, OFF:0			
		MI2>	M21>	DCN	3E	3E	3E	DYNAMIC Contrast			
				DBR	80	80	80	DYNAMIC Brightness			
[ ];menu related value - decimal it is ok to display by hex e.g. [32] is centre of CONTRAST e.g. [63] is MAX for CONTRAST.				DCL	50	50	50	DYNAMIC Colour			
				DPB	00	00	00	DYNAMIC Peak Brightness 0;Peak, 1:Normal	PDP	10	D6
				DCM	02	02	02	DYNAMIC Contrast Mode NORM;0, AUTO;1, DYN;2			
				DBS	1F	1F	1F	DYNAMIC Black stretch 0;off, 01~3F; level			
				DWB	00	00	00	DYNAMIC White Balance 0:cool, 1;normal, 2;warm			
				DFT	01	01	01	DYNAMIC Film Mode 0;on, 1;off			
			M22>	NCN	38	38	38	NATURAL Contrast			
				NBR	80	80	80	NATURAL Brightness			
				NCL	48	48	48	NATURAL Colour			
				NPB	00	00	00	NATURAL Peak Brightness 0;Peak, 1:Normal	PDP	10	D6
				NCM	01	01	01	NATURAL Contrast Mode NORM;0, AUTO;1, DYN;2			
				NBS	1A	1A	1A	NATURAL Black stretch 0;off, 01~3F; level			
				NWB	00	00	00	NATURAL White Balance 0:cool, 1;normal, 2;warm			
				NFT	01	01	01	NATURAL Film Mode 0;on, 1;off			
			M23>	TCN	3E	3E	3E	CINEMA Contrast			
				TBR	80	80	80	CINEMA Brightness			
				TCL	50	50	50	CINEMA Colour			
				TPB	00	00	00	CINEMA Peak Brightness 0;Peak, 1:Normal	PDP	10	D6
				TCM	00	00	00	CINEMA Contrast Mode NORM;0, AUTO;1, DYN;2			
				TBS	1F	1F	1F	CINEMA Black stretch 0;off, 01~3F; level			
				TWB	01	01	01	CINEMA White Balance 0:cool, 1;normal, 2;warm			
				TFT	00	00	00	CINEMA Film Mode 0;on, 1;off			
			M24>	DGS	01	01	01	DYNAMIC Gamma Select			
				NGS	01	01	01	NATURAL Gamma Select			
				TGS	01	01	01	CINEMA Gamma Select			
				PGS	02	02	02	PERSONAL Gamma Select			
				DPM	00	00	00	DYNAMIC Picture Mode			
				NPM	01	01	01	NATURAL Picture Mode			
				TPM	01	01	01	CINEMA Picture Mode			
				PPM	02	02	02	PERSONAL Picture Mode			
		MI3>	M31>	MVB	0B	0B	0B	MUSIC Volume Balance			

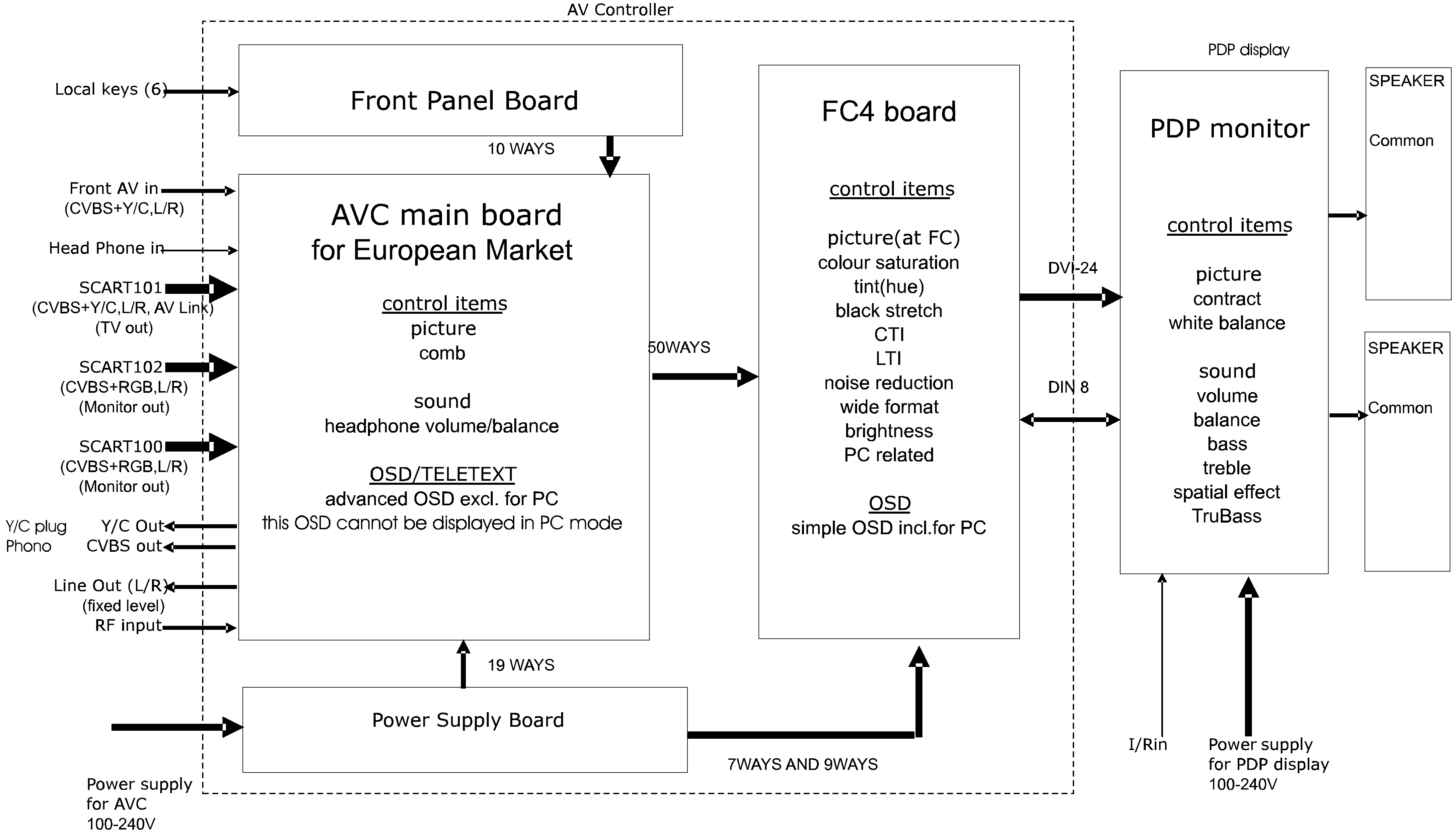
1st	2nd	3rd	4th	5th	32" values hex	37" values hex	42" values hex	functions	Device		
[ ];menu related value - decimal it is ok to display by hex e.g. [11] is centre of Balance e.g. [21] is MAX for Treble.				**MTR**	**0B**	**0B**	**0B**	MUSIC Treble			
				MBA	**0B**	**0B**	**0B**	MUSIC Bass			
				MTB	**03**	**03**	**03**	MUSIC TruBass 0;off, 1;low, 2;mid, 3;high			
				MMS	**01**	**01**	**01**	MUSIC Matrix Surround 0;off, 1;on			
			M32>	**NVB**	**0B**	**0B**	**0B**	SPEECH Volume Balance			
				NTR	**10**	**10**	**10**	SPEECH Treble			
				NBA	**0B**	**0B**	**0B**	SPEECH Bass			
				NTB	**00**	**00**	**00**	SPEECH TruBass 0;off, 1;low, 2;mid, 3;high			
				NMS	**00**	**00**	**00**	SPEECH Matrix Surround 0;off, 1;on			
			M33>	**TVB**	**0B**	**0B**	**0B**	CINEMA Volume Balance			
				TTR	**10**	**10**	**10**	CINEMA Treble			
				TBA	**10**	**10**	**10**	CINEMA Bass			
				TTB	**02**	**02**	**02**	CINEMA TruBass 0;off, 1;low, 2;mid, 3;high			
				TMS	**01**	**01**	**01**	CINEMA Matrix Surround 0;off, 1;on			
		MI4>	M41 >	TSW	00	00	00	TDA9178 fitted or not. 0:not fitted, 1;fitted			
TDA9178 option Those values are fixed in this menu. No individual parameter on TC1~TC4 can be set.				TC1	01	01	01	TDA9178 address 00	TDA9178	00	D07:D00
				TC2	10	10	10	TDA9178 address 01	TDA9178	01	D05:D00
				TC3	00	00	00	TDA9178 address 02	TDA9178	02	D07:D00
				TC4	00	00	00	TDA9178 address 03	TDA9178	03	D05:D00
				ABS	00	00	00	TDA9178 address 04	TDA9178	04	D05:D00
			M42 >	NLA	00	00	00	TDA9178 address 05	TDA9178	05	D05:D00
				VGM	20	20	20	TDA9178 address 06	TDA9178	06	D05:D00
				PKG	00	00	00	TDA9178 address 07	TDA9178	07	D05:D00
				STP	00	00	00	TDA9178 address 08	TDA9178	08	D05:D00
				CRG	00	00	00	TDA9178 address 09	TDA9178	09	D05:D00
				LWD	00	00	00	TDA9178 address 0A	TDA9178	0A	D05:D00
WB OFFSET OFF/1/2/3 option			**M43>**	**1RD**	**14**	**14**	**14**	White balance offset 1; R_DRIVE MAX			
				1GD	**0F**	**0F**	**0F**	White balance offset 1; G_DRIVE			
				1BD	**00**	**00**	**00**	White balance offset 1; B_DRIVE			
				1RG	**1F**	**1F**	**1F**	White balance offset 1; R_GAMMA			
				1GG	**1F**	**1F**	**1F**	White balance offset 1; G_GAMMA			
				1BG	**1F**	**1F**	**1F**	White balance offset 2; B_GAMMA			
			M44>	**2RD**	**00**	**00**	**00**	White balance offset 2; R_DRIVE CENTRE			
				2GD	**00**	**00**	**00**	White balance offset 2; G_DRIVE			
				2BD	**00**	**00**	**00**	White balance offset 2; B_DRIVE			
				2RG	**1F**	**1F**	**1F**	White balance offset 2; R_GAMMA			
				2GG	**1F**	**1F**	**1F**	White balance offset 2; G_GAMMA			
				2BG	**1F**	**1F**	**1F**	White balance offset 2; B_GAMMA			

1st	2nd	3rd	4th	5th	32" values hex	37" values hex	42" values hex	functions	Device		
			M45>	3RD	00	00	00	White balance offset 3; R_DRIVE MIN			
				3GD	0F	0F	0F	White balance offset 3; G_DRIVE			
				3BD	29	29	29	White balance offset 3; B_DRIVE			
				3RG	1F	1F	1F	White balance offset 3; R_GAMMA			
				3GG	1F	1F	1F	White balance offset 3; G_GAMMA			
				3BG	1F	1F	1F	White balance offset 3; B_GAMMA			
		MI5> - add 27 bytes	M51 >	CEA	0D	0D	0D	C-Vert/Horiz enhancer gain DYNAMIC-RGB/YCbCr			
				CEB	0D	0D	0D	C-Vert/Horiz enhancer gain DYNAMIC-YPbPr			
				CEC	0D	0D	0D	C-Vert/Horiz enhancer gain NATURAL-RGB/YCbCr			
				CED	0D	0D	0D	C-Vert/Horiz enhancer gain NATURAL-YPbPr			
				CEE	0D	0D	0D	C-Vert/Horiz enhancer gain CINEMA-RGB/YCbCr			
				CEF	0D	0D	0D	C-Vert/Horiz enhancer gain CINEMA-YPbPr			
				CEM	10	10	10	CTI MID level in menu (FAVOURUTE)			
			M52>	YEA	10	10	10	sharpness DYNAMIC-RGB/YCbCr			
				YEB	10	10	10	sharpness DYNAMIC-YPbPr			
				YEC	08	08	08	sharpness NATURAL-RGB/YCbCr			
				YED	02	02	02	sharpness NATURAL-YPbPr			
				YEE	10	10	10	sharpness CINEMA-RGB/YCbCr			
				YEF	10	10	10	sharpness DYNAMIC-YPbPr			
				YE9	10	10	10	sharpness centre on FAVOURITE-RGB/YCbCr			
				YE0	10	10	10	sharpness centre on FAVOURITE-YPbPr			
			M53 >	LC1	1F	1F	1F	Favourite + TV ; last CTI			
				LC2	10	10	10	Favourite + Video ; last CTI			
				LC3	0D	0D	0D	Favourite + RGB/YCbCr ; last CTI			
				LC4	0D	0D	0D	Favourite + YPbPr ; last CTI			
			M54>	DCV	50	50	50	DYNAMIC + VIDEO/RGB ; color			
				NCV	3E	3E	3E	NATURAL + VIDEO/RGB ; colour			
				TCV	40	40	40	CINEMA + VIDEO/RGB ; colour			
				SAV	3E	3E	3E	FAVOURITE + VIDEO/RGB ; colour			
				DCO	58	58	58	DYNAMIC + YCbCr/YPbPr ; colour			
				NCO	4B	4B	4B	NATURAL + YCbCr/YPbPr ; colour			
				TCO	50	50	50	CINEMA + YCbCr/YPbPr ; colour			
			-	SAO	44	44	44	FAVOURITE + YCbCr/YPbPr ; colour			
	OPT>	OB0			78	78	78	option byte 1			

1st	2nd	3rd	4th	5th	32" values hex	37" values hex	42" values hex	functions	Device		
		OB1			**80**	**80**	**80**	option byte 2			
		EMG			**0**	**0**	**0**	**0:Normal, 1:Macrovision improved**			
		AV DELAY			**OFF**	**OFF**	**OFF**				
		RGB Comb			**OFF**	**OFF**	**OFF**	**ON;Go through Comb, OFF;skip Comb It is affected to SVC>MIS>MI1>M11=HP2/4**			
		FC4						Enters FC4 sub menu			
		ASIAN OPTIONS>	**AV2**		**RGB**	**RGB**	**RGB**	RGB or YUV			
			INITIAL INSTALL		**ON**	**ON**	**ON**	INITIAL INSTALL menu is on or off			
			COUNTRY SELECT		**ON**	**ON**	**ON**	Country select is on or off			
			LANGUAGE SELECT		**ON**	**ON**	**ON**	European language select is on or off			
			TELETEXT		**ON**	**ON**	**ON**	TELETEXT is working or not			
	HOT>	**OPT**			**0**	**0**	**0**	hotel option, see sheet HOTEL OPTION			
		VOL		bar	**centre**	**centre**	**centre**	Maximum volume limited in Hotel mode			
		PRG			**1**	**1**	**1**	start up position number			
	VRS>	**MN**			**read**	**read**	**read**	Model name			
		MSU			**read**	**read**	**read**	MSU micro version number			
		PDU			**read**	**read**	**read**	PDP micro version number	-		
		PWT			**read**	**read**	**read**	PDP working hour			
	E2>	**E2R**			**OK**	**OK**	**OK**	EEPROM reset			
		E2F			**OK**	**OK**	**OK**	EEPROM factory setting			
		E2S			**OK**	**OK**	**OK**	EEPROM is set to the shipment			
		E24			**OK**	**OK**	**OK**	**EEPROM in FC4 is initialised**			
		EXS			**OK**	**OK**	**OK**	**escape from service menu**			

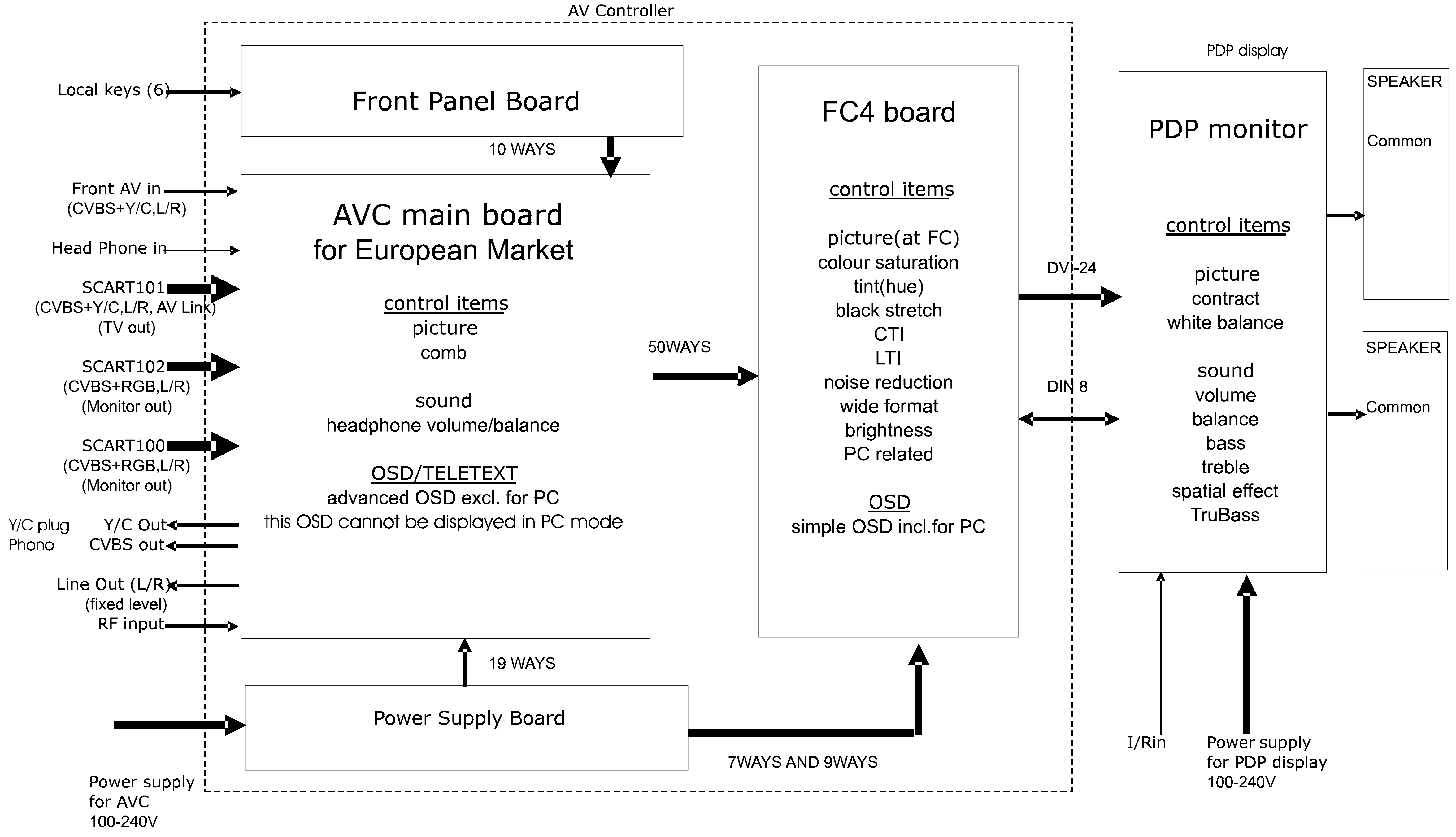
Block Diagrams

AVC to PDP Block Diagram


AV Controller
Local keys (6)
Front Panel Board
10 WAYS
Front AV in
(CVBS+Y/C,L/R)
Head Phone in
SCART101
(CVBS+Y/C,L/R, AV Link)
(TV out)
SCART102
(CVBS+RGB,L/R)
(Monitor out)
SCART100
(CVBS+RGB,L/R)
(Monitor out)
Y/C plug
Phono
Y/C Out
CVBS out
Line Out (L/R)
(fixed level)
RF input
AVC main board
for European Market
control items
picture
comb
sound
headphone volume/balance
OSD/TELETEXT
advanced OSD excl. for PC
this OSD cannot be displayed in PC mode
50WAYS
19 WAYS
Power Supply Board
Power supply
for AVC
100-240V
7WAYS AND 9WAYS
FC4 board
control items
picture(at FC)
colour saturation
tint(hue)
black stretch
CTI
LTI
noise reduction
wide format
brightness
PC related
OSD
simple OSD incl.for PC
DVI-24
DIN 8
PDP display
PDP monitor
control items
picture
contract
white balance
sound
volume
balance
bass
treble
spatial effect
TruBass
I/Rin
Power supply
for PDP display
100-240V
SPEAKER
Common
SPEAKER
Common

SM003	AVC to PDP Block Diagram	HITACHI

AVC Block Diagram


AV Controller
Local keys (6)
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10 WAYS
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(CVBS+Y/C,L/R)
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SCART101
(CVBS+Y/C,L/R, AV Link)
(TV out)
SCART102
(CVBS+RGB,L/R)
(Monitor out)
SCART100
(CVBS+RGB,L/R)
(Monitor out)
Y/C plug
Phono
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Power Supply Board
Power supply
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7WAYS AND 9WAYS
FC4 board
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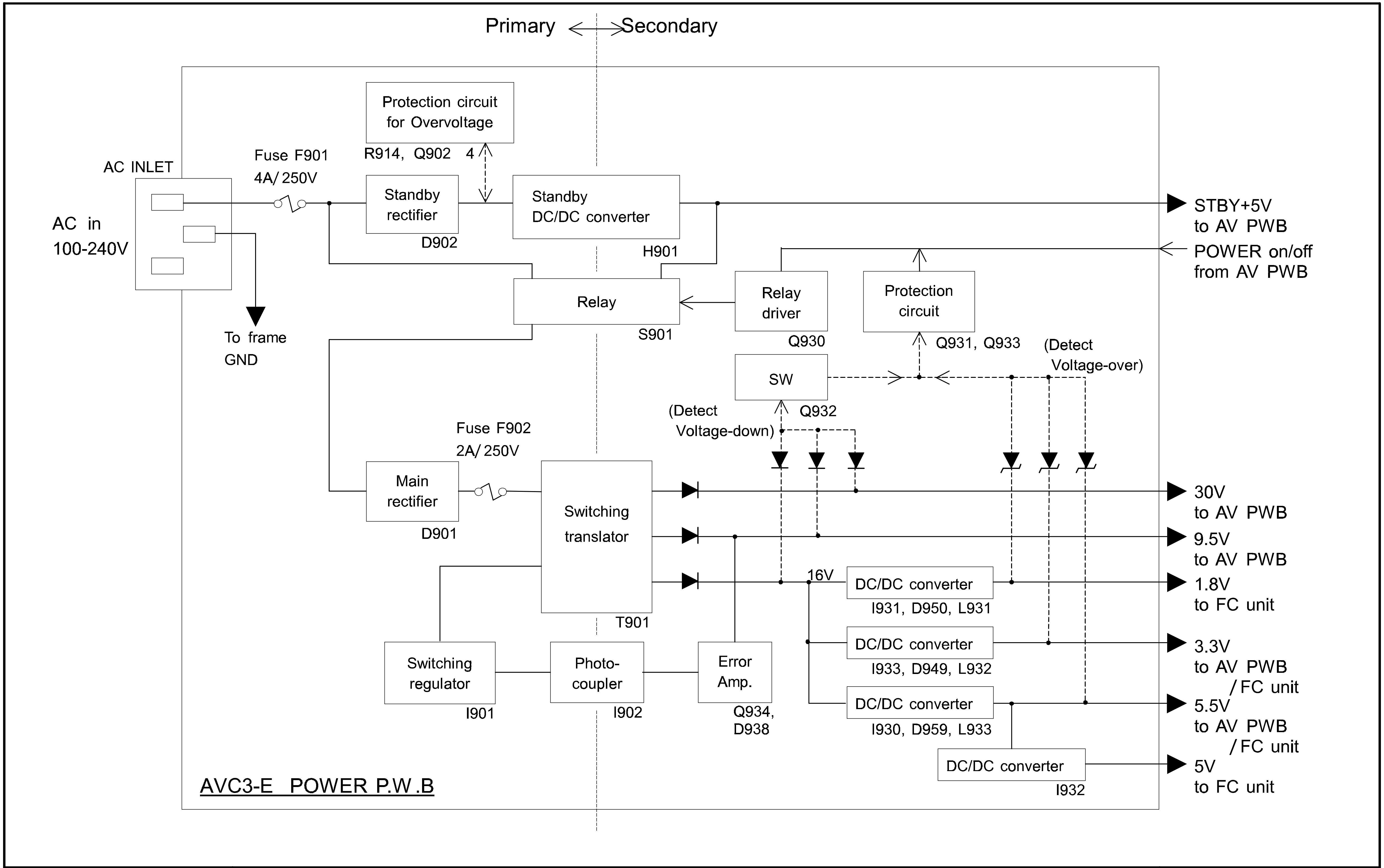
picture(at FC)
colour saturation
tint(hue)
black stretch
CTI
LTI
noise reduction
wide format
brightness
PC related
OSD
simple OSD incl.for PC
DVI-24
DIN 8
PDP display
PDP monitor
control items
picture
contract
white balance
sound
volume
balance
bass
treble
spatial effect
TruBass
I/Rin
Power supply
for PDP display
100-240V
SPEAKER
Common
SPEAKER
Common

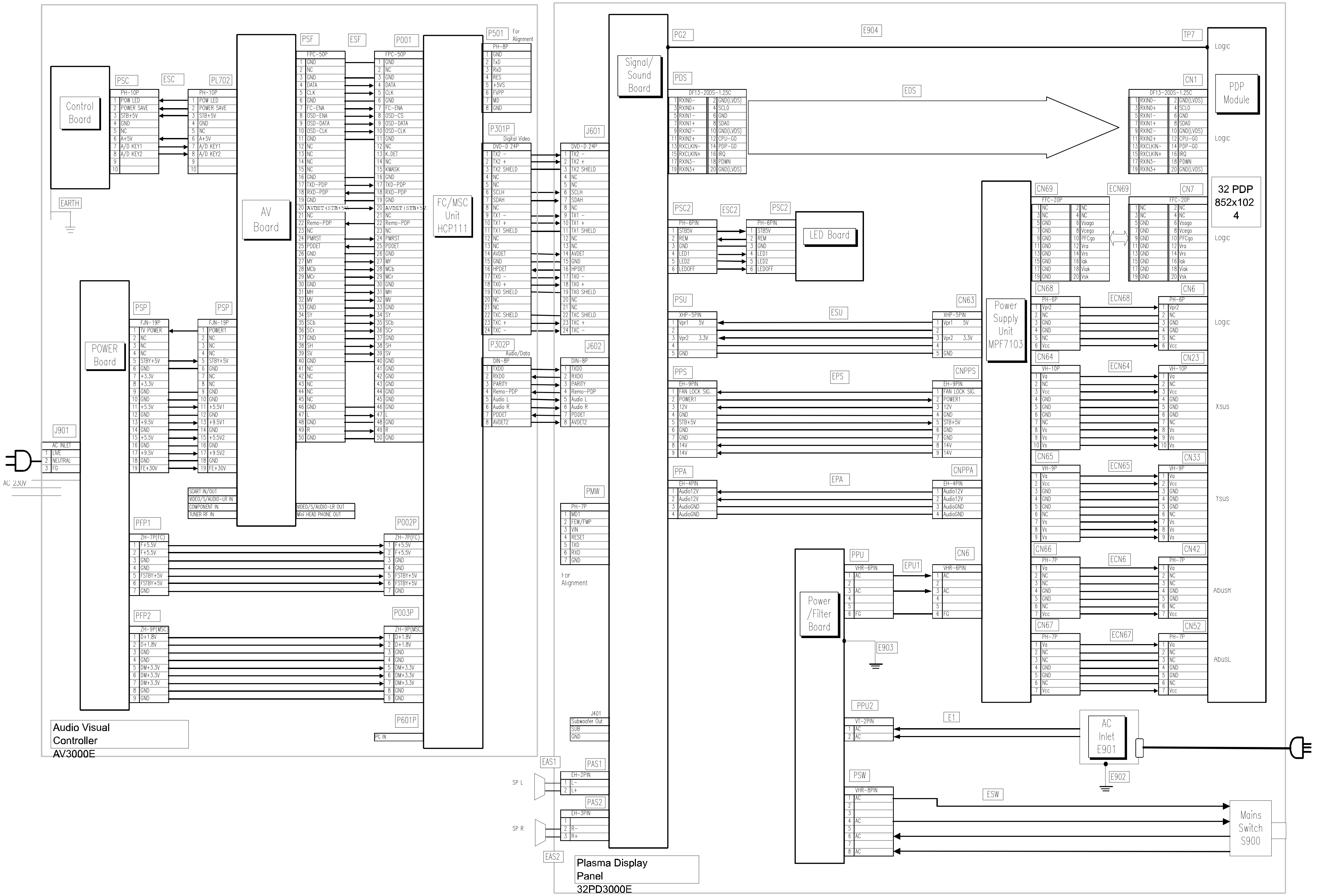
SM003	AVC to PDP Block Diagram	HITACHI

AVC Power Block Diagram


Primary
Secondary
Protection circuit for Overvoltage
R914, Q902
4
AC INLET
Fuse F901
4A/ 250V
Standby rectifier
D902
Standby DC/DC converter
H901
STBY+5V to AV PWB
POWER on/off from AV PWB
AC in
100-240V
Relay
S901
Relay driver
Q930
Protection circuit
Q931, Q933
(Detect Voltage-over)
To frame GND
SW
Q932
(Detect Voltage-down)
Fuse F902
2A/ 250V
Main rectifier
D901
Switching translator
T901
30V to AV PWB
9.5V to AV PWB
16V
DC/DC converter
I931, D950, L931
1.8V to FC unit
DC/DC converter
I933, D949, L932
3.3V to AV PWB / FC unit
DC/DC converter
I930, D959, L933
5.5V to AV PWB / FC unit
DC/DC converter
I932
5V to FC unit
Switching regulator
I901
Photo-coupler
I902
Error Amp.
Q934, D938
AVC3-E POWER P.W.B

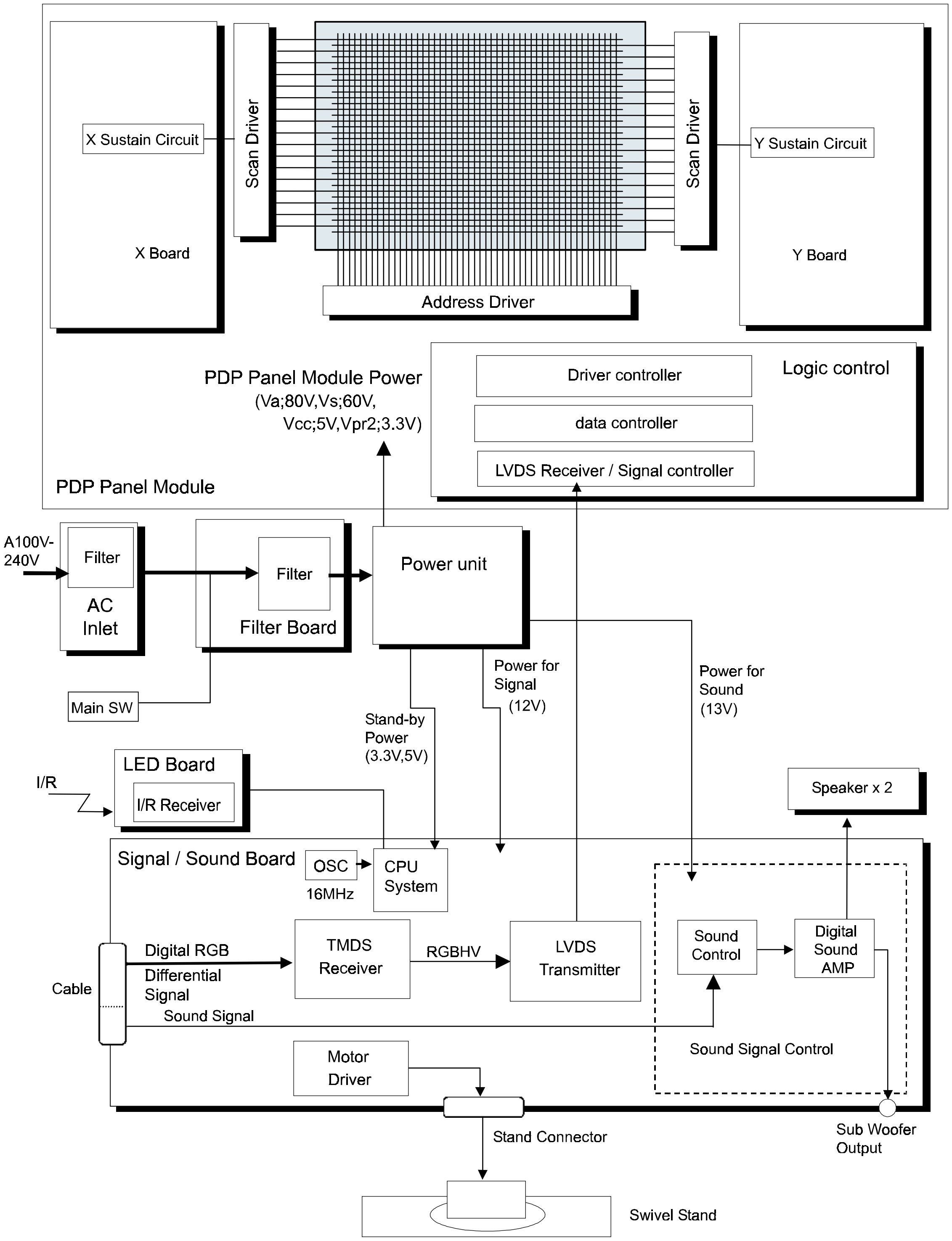
SM003	AVC Power Block Diagram	HITACHI

Major Connectors


Control Board
PSC
ESC
PL702
EARTH
AV Board
PSF
ESF
P001
FC/MSC Unit HCP111
P501 For Alignment
P301P Digital Video
P302P Audio/Data
POWER Board
PSP
J901
AC INLET
AC 230V
PFP1
P002P
PFP2
P003P
P601P
PC IN
Audio Visual Controller AV3000E
Signal/ Sound Board
J601
J602
PMW
For Alignment
J401
EAS1
PAS1
PAS2
EAS2
SP L
SP R
Plasma Display Panel 32PD3000E
PG2
E904
TP7
PDS
EDS
CN1
PDP Module
32 PDP 852x1024
PSC2
ESC2
LED Board
Power Supply Unit MPF7103
CN69
ECN69
CN7
PSU
ESU
CN63
CN68
ECN68
CN6
PPS
EPS
CNPPS
CN64
ECN64
CN23
PPA
EPA
CNPPA
CN65
ECN65
CN33
Power /Filter Board
PPU
EPU1
CN6
CN66
ECN6
CN42
CN67
ECN67
CN52
E903
PPU2
E1
AC Inlet E901
E902
PSW
ESW
Mains Switch S900
Logic
Xsus
Ysus
Abus H
Abus L

SM003	Major Connections Diagram	HITACHI

Monitor Block Diagram


X Sustain Circuit
X Board
Scan Driver
Scan Driver
Y Sustain Circuit
Y Board
Address Driver
PDP Panel Module Power
(Va;80V,Vs;60V,
Vcc;5V,Vpr2;3.3V)
Driver controller
data controller
LVDS Receiver / Signal controller
Logic control
PDP Panel Module
A100V-240V
Filter
AC Inlet
Filter
Filter Board
Power unit
Main SW
Power for Signal (12V)
Stand-by Power (3.3V,5V)
Power for Sound (13V)
I/R
LED Board
I/R Receiver
Speaker x 2
Signal / Sound Board
OSC
16MHz
CPU System
Cable
Digital RGB
Differential Signal
Sound Signal
TMDS Receiver
RGBHV
LVDS Transmitter
Sound Control
Digital Sound AMP
Sound Signal Control
Motor Driver
Stand Connector
Sub Woofer Output
Swivel Stand

Schematic Drawing Descriptions

Schematic Page 1 ; Tuner / Video Chroma

TUN100 Asymmetrical type tuner ; UV1316/A 1G-3 313914716781

supply voltage ; +5V at pin 7 and +33V at pin 9

control by I2C, SDA at pin 5 and SCL at pin 4

SAW100 K3953M picture carrier 33.90MHz, picture to sound carrier distance 6.5MHz for standard L

SAW101 K9456M sound carrier 40.40MHz for standard L

VHF/UHF asymmetrical type tuner converts RF input signal to IF signal output through pin 11.

AGC voltage is supplied at pin1 from IC100 pin62

IF output is going through buffer Q101 to SAW filter SAW100 for VIF at pin 2 and 3 of IC100 and to SAW101 for SIF at pin 63 and 64.

IC100 Video chroma and video switch TDA9321H

supply voltage ; +8V at pin 11 and 48 (AS)

control by I2C, SDA at pin 47 and SCL at pin 46

TR100 TPWA01B - nominal centre freq. Fn1=6.0MHz and fn2=6.5MHz

TR101 TPWA04B - nominal centre freq. Fn1=5.5MHz and fn2=5.742MHz

X100 3.58MHz X'tal

X101 4.43MHz X'tal

* IF demodulator and video chroma

Demodulated video signal is output from pin 10 going to sound traps

There are two sound traps, TR100 for I/L signal and TR101 for BG, output from which are switched by SOUND-SWITCH from IC301 pin 5

After group delay correction at pin 13, it is connected to pin 14 where TV picture is supplied into video switch.

The TV signal from pin13 is also connected to SCART1 as TV signal output.

Quasi Split Sound converted from SIF input is output at pin 5 to connect with sound decoder IC301

H and V sync pulses are output at pin 60 and 61 to go to FC/MSC for synchronization to convert progressive scan. H pulse must be inverted by Q126.

When selecting one of video signal in video switch of IC100, CVBS signal is going to COMB filter if the video is CVBS PAL/NTSC format.

Then Y/C separated signal is coming back at pin 28 and 29. The clock must be provided from pin 30.

The video or Y/C signal selected pass through video chroma section and finally converted to YUV format at pin 49, 50, 51

IC100 is supplied 4.43MHz and 3.58MHz clock from crystal X100 and X101, which is automatically selected according to the signal received.

2 RGB inputs are also switched at the last stage in IC100. RGB signals are also converted to YUV.

* video switch

input	pin 14	TV signal input
	pin 16	CVBS - SCART102 (AV2) input
	pin 18	CVBS - SCART100 (AV3) input
	pin 20	CVBS/Y - SCART101 (AV1) input
	pin 21	C - SCART101 (AV1) input
	pin 23	CVBS/Y - front AV (FRONT) input
	pin 24	C - front AV (FRONT) input
	pin 28	Y - from COMB filter
	pin 29	C - from COMB filter
input	pin 15	SCART102 (AV2) pin8 detection
control	pin 17	SCART100 (AV3) pin8 detection
	---	SCART101 (AV1) pin8 detection is done by micro IC704 pin28
output	pin 26	go to COMB filter and phono video output
	pin 32	go to micro for TELETEXT decoding
	pin 34	go to SCART102(AV2) and SCART100(AV3) as monitor video output
output	pin 20	L/L' switch for SAW filter in/out at SAW101
control	pin 22	micro switch to switch SVHS or CVBS for front AV input

Schematic Page 2 ; Sound / AV3 Control

IC301 **NICAM/A2 sound decoder and audio switch ; MSP3410**
supply voltage ; +5V at pin 18 and pin 51
control by ; I2C, SDA at pin 10 and SCL at pin 9
X300 **18.432MHz**

* NICAM/A2 decoder and sound control

QSS signal is coming from IC100 to pin 58 through amplifier Q308/307. The signal level at pin 58 should be 0.1 ~ 0.8Vpp.

Sound output L/R at pin 28 and 29 are connected through amplifier Q310/Q312 for L and Q309/Q311 for R to adjust 500mVrms at PL700 pin 4 and 6 In the condition of AV sound input 500mVrms, FM modulation 54%

Sound output L/R at pin 28 and 29 are also connected through IC300 TDA7433 and IC303 to headphone.

* Audio switch

input	pin 52	SCART101(AV1) sound L input
	pin 53	SCART101(AV1) sound R input
	pin 49	SCART102(AV2) sound L input
	pin 50	SCART102(AV2) sound R input
	pin 46	SCART100(AV3) sound L input
	pin 47	SCART100(AV3) sound R input
	pin 43	front AV (FRONT) sound L inout
	pin 44	front AV (FRONT) sound R inout
	pin 55	mono sound input from IC100
output	pin 37	SCART101(AV1) sound L output
	pin 36	SCART101(AV1) sound R output
	pin 34	SCART102(AV2) / SCART3(AV3) sound L output
	pin 33	SCART102(AV2) / SCART3(AV3) sound R output
	pin 29	Speaker / Headphone/phone sound L output
	pin 28	Speaker / Headphone/phone sound R output
output	pin 5	SOUND SWITCH for trap of TV input signal

IC300 **Basic audio processor ; TDA7433**
supply voltage ; +8V at pin 17
control by ; I2C, SDA at pin 19 and SCL at pin 18

Monitor sound L/R outputs for speaker are connected headphone and phone out. IC300 contributes separate volume control

input	pin 6	Audio sound L input
	pin 5	Audio sound R input

output	pin 16	Phono sound L output
	pin 15	Phono sound R output
	pin 14	Headphone sound L output
	pin 13	Headphone sound R output

IC303 **Headphone sound amplifier ; TDA2822D**
supply voltage ; +6.5V at pin 2

Headphone sound L/R controlled its level by IC300 are amplified.

******** **front AV video switch**
PL300 **connector for front control PCB**

At pin 12 of PL700, CVBS from AV3 is coming.

At pin 11 of PL700, Y from AV3SVHS is coming

At pin 9 indication of SVHS connector insertion is supplied to micro IC704 pin38 and then it controls micro-switch from pin22 of IC100 in order to select Y from pin11 of PL700 (micro-sw=H) or to select CVBS from pin12 of PL700 (micro-sw=L)

At pin 15 of PL700, C from AV3SVHS is coming to connect to pin 24 of IC100

IC302
(OPTION) **TDA8440 is the option in the future. This is not used for this model.**

Schematic Page 3 ; Interface Board (component input, progressive sync separation, centre audio channel)

IC08 **Sync separation for Component (progressive) input ; TA1370**
supply voltage ; +9V at pin 11
control by ; I2C, SDA at pin 21 and SCL at pin 22
XC01 **50KHz**

Sync separation for progressive YPbPr input (50Hz and 60Hz) are carried out at TA1370.

Input video signal is specifically given from AV4 and connected at pin 26 through clamping circuit constituted with QC25~QC28

Sync separation for all input signal other than Progressive input are carried out at TDA9321 (page1)

TA1370 includes switch of sync signal (H and V) between H/V input (pin I and pin2) from TDA9321 and internal sync separation.

TA1370 outputs H at pin16 and V at pin 28, which are connected to PSF for FC4 board. There are 2 inputs of the connector for each main and sub.

H output at pin 16 on TA1370 is fed to IC10 to shorten H pulse waveform to avoid jittering.

IC02/IC03 **YUV/RGB switch ; TA1287**
supply voltage ; +9V at pin 16
control by ; DC voltage at pin 9/10/11 and matrix at pin 16

input IC02 YUV; Main signal
IC03 YUV; from IC02
YUV ; at pin 1/2/3, Y:1Vpp (incl.sync), UV:0.3Vpp
RGB ; at pin 6/7/8, 0.7Vpp

output IC02 connect to IC03
IC03 connect to FC4 through buffers
YUV ; at pin13/14/15, Y:1Vpp (incl.sync), UV:0.3Vpp
matrix control of RGB input (YUV can also input. In this case, matrix control should be through)
IC02 0V; through
IC03 always 1.6V:RGB --> YUV

control IC02 0V; external (Components input)
IC03 0V; Video

IC04/IC05/IC06 Analogue switch ; BU4066
supply voltage +9V at pin 14

IC04	Audio switch, main L/R or AV4 (components input) L/R. main L/R comes from MSP3410 audio switch.
IC05	Video switch, Front video or AV4 (in case of YCbCr normal components), which is connected to TDA9321 for sync separation
IC06	Audio switch, Centre sound or AV4 (components input) L/R. Output goes to IC04 to switch another audio input.

IC07 **Analogue Switch for Sub video ; BU4053**
supply voltage ; +9V at pin 16

2 inputs, main YUV from IC03 and RGB from micro (TELETXT), are switched and connected to sub video input for FC4

This is enabled when TV+TEXT is selected (SUB TELETEXT), and when PC window is selected (SUB VIDEO)

IC09 **I/O expanders ; M62320FP**
supply voltage ; +5V at pin 13
control by ; I2C, SDA at pin 3 and SCL at pin 2

		connect to	L	H
D00 pin 4	component video	IC02, IC05	components input	other than components
D01 pin 5	Matrix	IC02	RGB --> YUV	through
D02 pin 6	PC	IC07	Not PC mode (SUB TEXT)	PC mode (SUB video in PCW)
D03 pin 7	OSD-blank	IC03	kill OSD	OSD enabled
D04 pin 9	Cinema	IC06, IC04	Audio centre not selected	Audio centre selected
D05 pin 10	Clamp-source	IC05	CP from TA1370	SC from TDA9321
D06 pin 11	TV/TEXT	IC03	TEXT (select RGB input)	TV
D07 pin 12	N.C.			

Schematic Page 4 ; Power Circuit (Voltage Regulator) / Level Shifter

Power supply connector PSP from Power Supply board

1	POWER1	Power ON/Stand-by control	H;ON, L;Stand-by
2	N.C.		
3	N.C.		
4	N.C.		
5	+5VSTB	Stand-by 5V for micro controller circuit	
6	GND		
7	N.C.		
8	N.C.		
9	GND		
10	GND		
11	+5.5V1	5.5V supply 1	
12	GND		
13	+9.5V1	9.5V supply 1	
14	GND		
15	+5.5V2	5.5V supply 2	
16	GND		
17	+9.5V2	9.5V supply2	
18	GND		
19	FE+30V	30V supply for tuner	

Voltage regulators

I603	BA06T	Input +9.5V2 - Output +8V For video chroma circuit (page1)
IC602	SI-3050LSA	Input +5.5V1 - Output +5VFE For tuner (page1)
IC603	SI-3050LSA	Input +5.5V2 - Output +5V For audio processor circuit (page2), comb filter (page6)
IC601	SI-3033LSA	Input +5VSTB - Output 3.3VSTB For micro controller circuit
Q602	TK11125M	Input +5VSTB - Output 2.5VSTB For micro controller circuit
IC604	BA09FP	Input +9.5V1 - Output +9V For interface circuit (page 3)

Level shift for control buses

Q607	BSS138	3WB-DATA to change from 3V3 to 5V
Q603	2SC2412K	3WB-CLOCK to invert with 5V range
Q604	2SC2412K	FC-ENABLE to invert with 5V range
Q605	2SC2412K	MSC-ENABLE to invert with 5V range
Q614	BSS138	1900TX to change from 3V3 to 5V

Schematic Page 5 ; Micro Controller

IC704 Micro controller ; SDA5550
supply voltage ; +3.3VSTB at pin 8, 40, 75 and 92 and +2.5VSTB at pin 6, 22, 56 and 73
control through I^2C ; SDA3v3 at pin 52 and SCL3v3 at pin 47
3 wire bus ; 3WB-clock3v3 at pin 41 and 3WB-data3v3 at pin 46
FC-enable at pin 42
MSC-enable at pin 43
OSD enable at pin 44
control through/by AVlink ; output at pin 16 and input at pin 33
RS232C (19200bps); TxD3v3 at pin 32 and RxD3v3 at pin 38
control by I/R in ; at pin 34
X700 6MHz X'tal
IC700 EEPROM ; M24C16W (16kbits)
supply voltage ; +3.3VSTB at pin 8
control by I2C ; SDA3v3 at pin 5 and SCL3v3 at pin 6 and WC3v3 at pin 7
IC701 Flash memory for software stored ; AT49LV002N (256Kbytes)
supply voltage ; +3.3VSTB at pin 32
control by address and data buses
IC701B option not fitted.
IC703 SRAM ; SMT K6T1008V2E-GB70000 or equivalent (128kbytes)
supply voltage ; +3.3VSTB at pin 32
control by address and data buses
IC705 RESET IC for IC704 ; M62703SL/ML
supply voltage ; +3.3VSTB at pin 1

SCL3v3 and SDA3v3 are converted for 5V operation in Q700/Q701/Q705/Q706
OSD/TEXT RGB at pin 58/59/60 are syncronized with progressive sync pulses 2H(32KHz) at pin 32 and V(50/60Hz) at pin 33
RGB and BLK are also converted to 5V operation at Q713/Q714/Q715 and IC707

AV link is bi-directional bus from pin 10 of SCART101, made by Q709/D701~D703. For the micro, input and output are separated.
The signal level is also converted between 3V3 in micro and 5V for SCART.

See "micro pins" for micro controller pin functions.

FRONT PANEL BOARD connection PL702

PIN NO.	PIN NAME	PL702 IN/OUT	FUNCTIONS
1	POW LED	I	Power LED
2	POWER SAVE	I	POWER2
3	STB+5V	I	Stand-by 5V power supply
4	GND	-	GND
5	RM-IN	O	N.C.
6	A+5V	I	+5V
7	A/D KEY 2	O	Key in 1
8	A/D KEY 1	O	Key in 2
9	(BS-LED)	-	N.C.
10	(MODEM-LED)	-	N.C.
		at Front Control	

Schematic Page 6 ; COMB Filter / SVHS Output

IC101 **COMB filter ; TC9090AF**

supply voltage ; +5V at pin 15, 18 and 27

control by I^2C ; SDA at pin 8 and SCL at pin 9

CVBS from IC100 pin 26 is filtered by C800/C801/L800/C802 and connected to pin 3

Y/C separate signals output from IC101 pin 25/23 are also filtered by Q801 base circuit and Q802 base circuit

Y is amplified to adjust the level at Q119/Q120 for return signal to IC100 and SVHS Y signal output via buffer Q803

C is amplified to adjust the level at Q121/Q122 for return signal to IC100 and SVHS C signal output via buffer Q804

IC101 requires clock at pin 19 supplied from IC100.

SVHS100 **SVHS output connector**

pin	functions
1	GND
2	GND
3	C
4	Y
5	GND(SW)

Schematic Page 7 ; SCART / FC-MSC Connection

SCART connectors

	SCART101	**SCART102**	**SCART100**	
pin	**AV1**	**AV2**	**AV3**	**general spec**
1	sound output R	sound output R	sound output R	Audio output R ; =<1kohm, nominal 0.5Vrms+-3dB, max 2Vrms ; 54% modulation in FM/AM
2	sound input R	sound input R	sound input R	Audio input R ; >=10kohm, nominal 0.5Vrms, min.0.2Vrms, max 2Vrms
3	sound output L	sound output L	sound output L	Audio output L ; =<1kohm, nominal 0.5Vrms+-3dB, max 2Vrms ; 54% modulation in FM/AM
4	GND	GND	GND	Audio common return
5	GND	GND	GND	Blue return
6	sound input L	sound input L	sound input L	Audio input L ; >=10kohm, nominal 0.5Vrms, min.0.2Vrms, max 2Vrms
7	N.C.	Blue-in	Blue-in	Blue ; 75ohm, 0.7V+-0.1V
8	switch	switch	switch	Function switch ; >=10kohm, =<2nF, Level 0 ; 0~2V, Level 1A : +4.5V~+7V (16:9), Level 1B : +9.5V~+12V (4:3)
9	GND	GND	GND	Green return
10	AVLINK	N.C.	N.C.	Avlink ; TTL level
11	N.C.	Green-in	Green-in	Green ; 75ohm, 0.7V+-0.1V
12	N.C.	N.C.	N.C.	under consideration
13	GND	GND	GND	Red return
14	GND	GND	GND	Blanking return
15	C in	Red-in	Red-in	Red/C ; 75ohm, 0.7V+-0.1V (Red), +-3dB at 1Vpp Y signal (C)
16	N.C.	Fast Blanking	Fast Blanking	Blanking ; 75ohm, logical 0 (off) : 0~0.4V, logical 1 : +1~+3V
17	GND	GND	GND	Video output return
18	GND	GND	GND	Video input return
19	TV output	Monitor output	Monitor output	Video/Y output ; 75ohm, 1Vpp +-3dB (sync 0.3V-3dB, +10dB)
20	CVBS/Y in	CVBS in	CVBS in	Video input ; 75ohm, 1Vpp +-3dB (sync 0.3V-3dB, +10dB)
21	GND	GND	GND	Common return and contact 8, 10, 12

PL700 connection with FC/MSC board 26ways connector

assuming that 1Vpp video signal with 75ohm terminated is input through SCART100 (AV3)

UV are inverted by Q609/Q612/Q610/Q613 to CbCr(U'V') at pin 25/24 and those are adjusted to the level at 1.4Vpp

Y is amplified by Q608/Q611 to adjust the level at 1.4V for signal and 0.6V for sync (2Vpp in total) at pin 26

sound level L and R at pin 6/4 should be 500mVrms on the condition that -

500mVrms audio is input through SCART100(AV3)

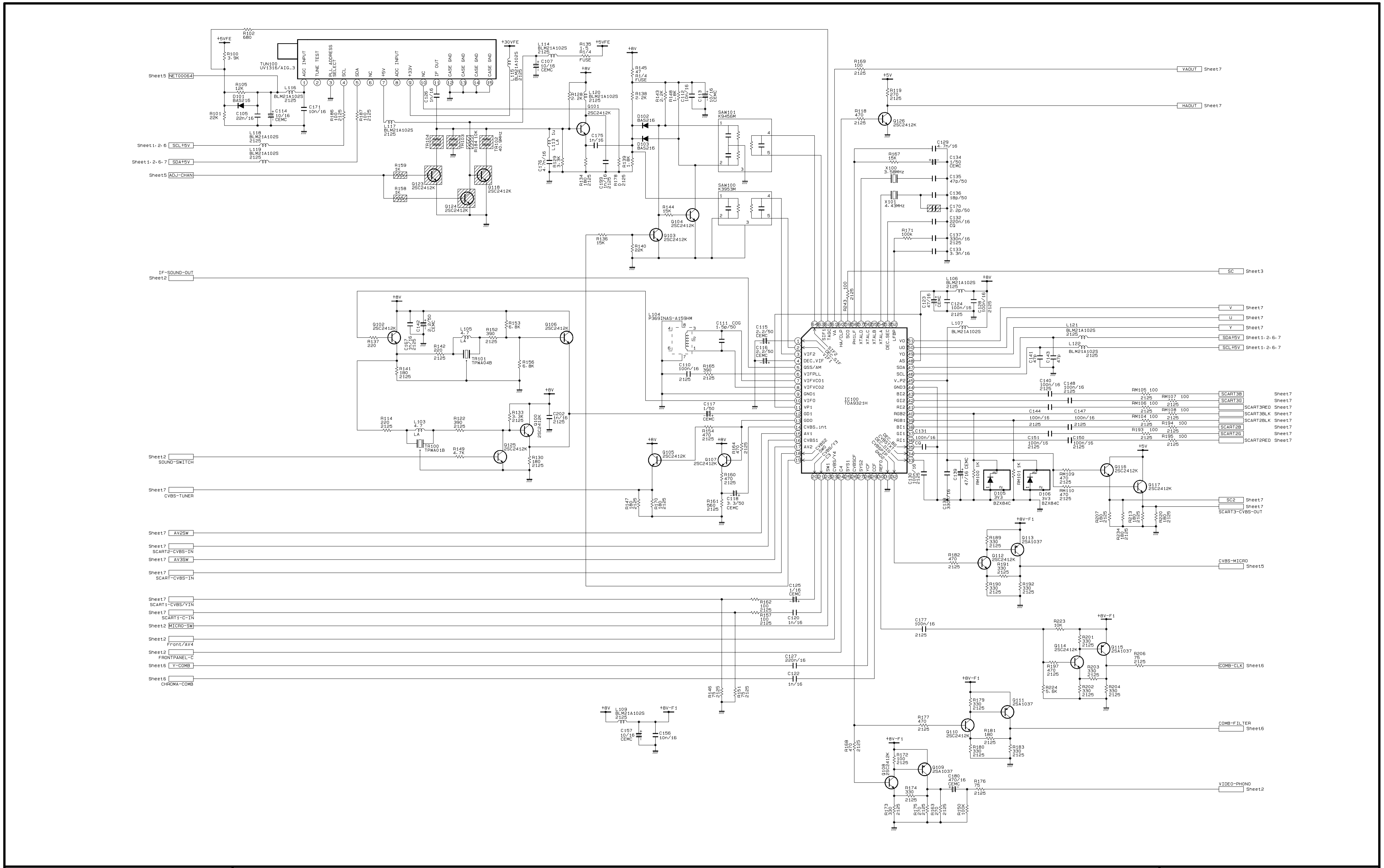
BG FM sound with 54% modulation is received

PL701 connection with FC/MSC board 26 ways connector

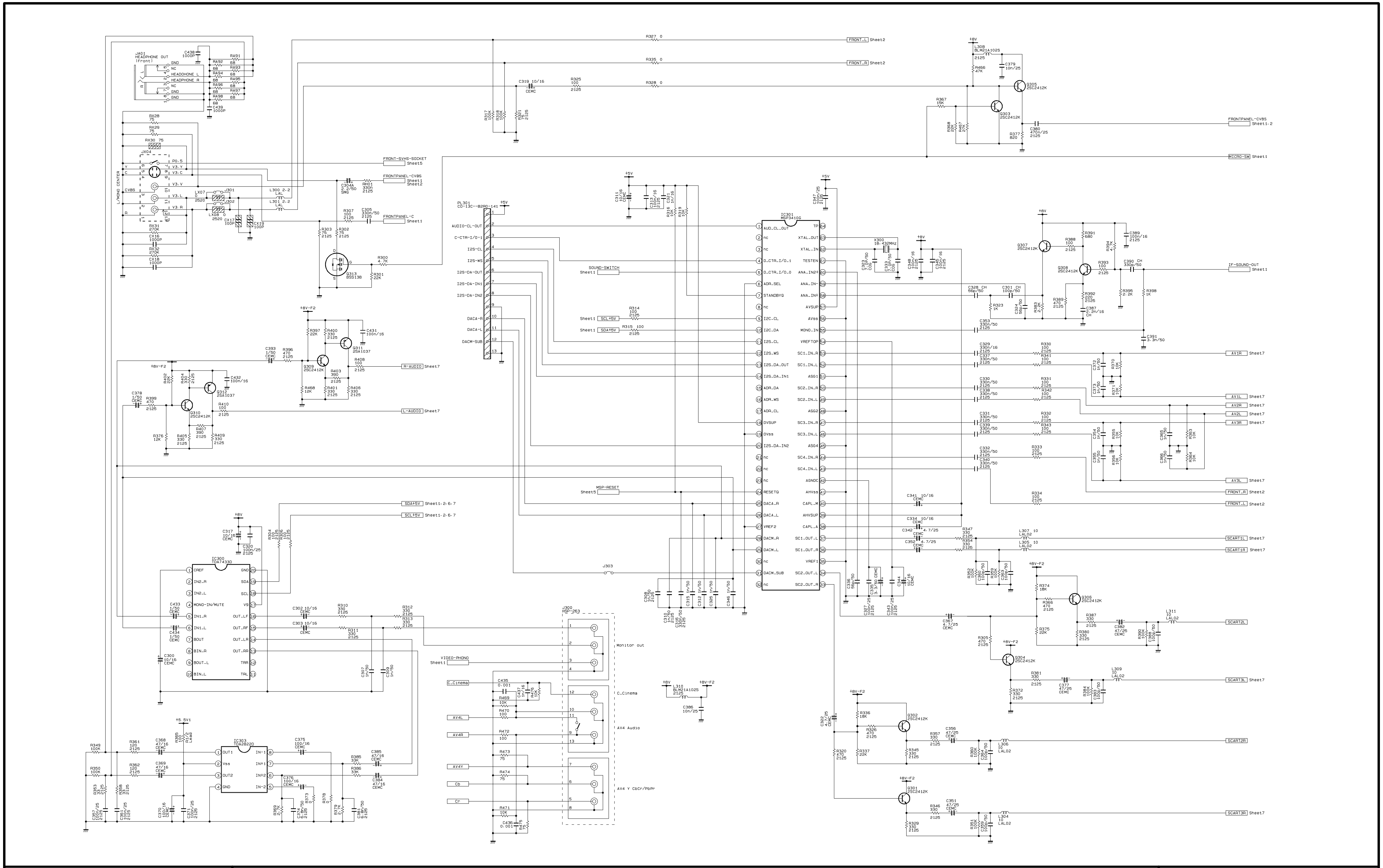
Schematic; AVC Power Supply

I901	**switching regulator - controller and power MOS FET ; STR-F6668B**	
	supply voltage at pin 4 ; over +16V (start operating)	
	pin 1	feedback input
	pin 2	Source of power MOS FET
	pin 3	Drain of power MOS FET
	pin 4	power supply input for controller
	pin 5	GND
H901	**DC+5V switching regulator module ; uPM0518SA**	
	supply voltage ; DC +120+375V at pin 1	
input	pin 1	DC(+) voltage input
	pin 5	DC(-) voltage input
	pin 7	feedback input-1
	pin 8	feedback input-2
output	pin 6	DC(-) voltage output
	pin 9	DC(+) voltage output
I902	**photocoupler ; TLP621**	
I930	**switching regulator ; SPI-8010A**	
	supply voltage ; DC +8.5+50V at pin 11	
input	pin 11	DC voltage input
	pin 15	feedback input
output	pin 7	switching output
I931	**switching regulator ; SI-8010GL**	
	supply voltage ; DC +8+50V at pin 5	
input	pin 5	DC voltage input
	pin 8	feedback input
	pin 2	output ON/OFF
output	pin 4	switching output
I932	**DC+5V series regulator ; SI-3050LSA**	
	supply voltage ; DC +5.1+8V at pin 1,3	
input	pin 1,3	DC voltage input
output	pin 7,8	DC +5V output
I933	**switching regulator ; SI-8033JD**	
	supply voltage ; DC +5.3+40V at pin 1	
input	pin 1	DC voltage input
	pin 4	feedback input
	pin 5	output ON/OFF
output	pin 2	switching output
PSP	**connector for AV P.W.B.**	
PFP1	**connector for FC4 unit**	
PFP2	**connector for FC4 unit**	

Schematic Drawings


TUN100
UV1316/AIG_3
AGC INPUT
TUNE TEST
PLL ADDRESS SELECT
SCL
SDA
NC
+5V
ADC INPUT
+33V
IF OUT
CASE GND
+5VFE
+30VFE
+8V
+5V
+8V-F1
Sheet5 NET00064
Sheet1・2・6 SCL+5V
Sheet1・2・6・7 SDA+5V
Sheet5 ADJ-CHAN
IF-SOUND-OUT Sheet2
Sheet2 SOUND-SWITCH
Sheet7 CVBS-TUNER
Sheet7 AV2SW
Sheet7 SCART2-CVBS-IN
Sheet7 AV3SW
Sheet7 SCART-CVBS-IN
Sheet7 SCART1-CVBS/YIN
Sheet7 SCART1-C-IN
Sheet2 MICRO-SW
Sheet2 Front/AV4
Sheet2 FRONTPANEL-C
Sheet6 Y-COMB
Sheet6 CHROMA-COMB
SAW101 K9456M
SAW100 K3953M
IC100 TDA9321H
X100 3.58MHz
X101 4.43MHz
TR100 TPWA01B
TR101 TPWA04B
L104 P3691NAS-A159HM
VAOUT Sheet7
HAOUT Sheet7
SC Sheet3
V Sheet7
U Sheet7
Y Sheet7
SDA+5V Sheet1・2・6・7
SCL+5V Sheet1・2・6・7
SCART3B Sheet7
SCART3G Sheet7
SCART3RED Sheet7
SCART3BLK Sheet7
SCART2BLK Sheet7
SCART2B Sheet7
SCART2G Sheet7
SCART2RED Sheet7
SC2 Sheet7
SCART3-CVBS-OUT Sheet7
CVBS-MICRO Sheet5
COMB-CLK Sheet6
COMB-FILTER Sheet6
VIDEO-PHONO Sheet2
D105 3V3 BZX84C
D106 3V3 BZX84C
Q126 2SC2412K
Q113 2SA1037
Q115 2SA1037
Q111 2SA1037
Q109 2SA1037

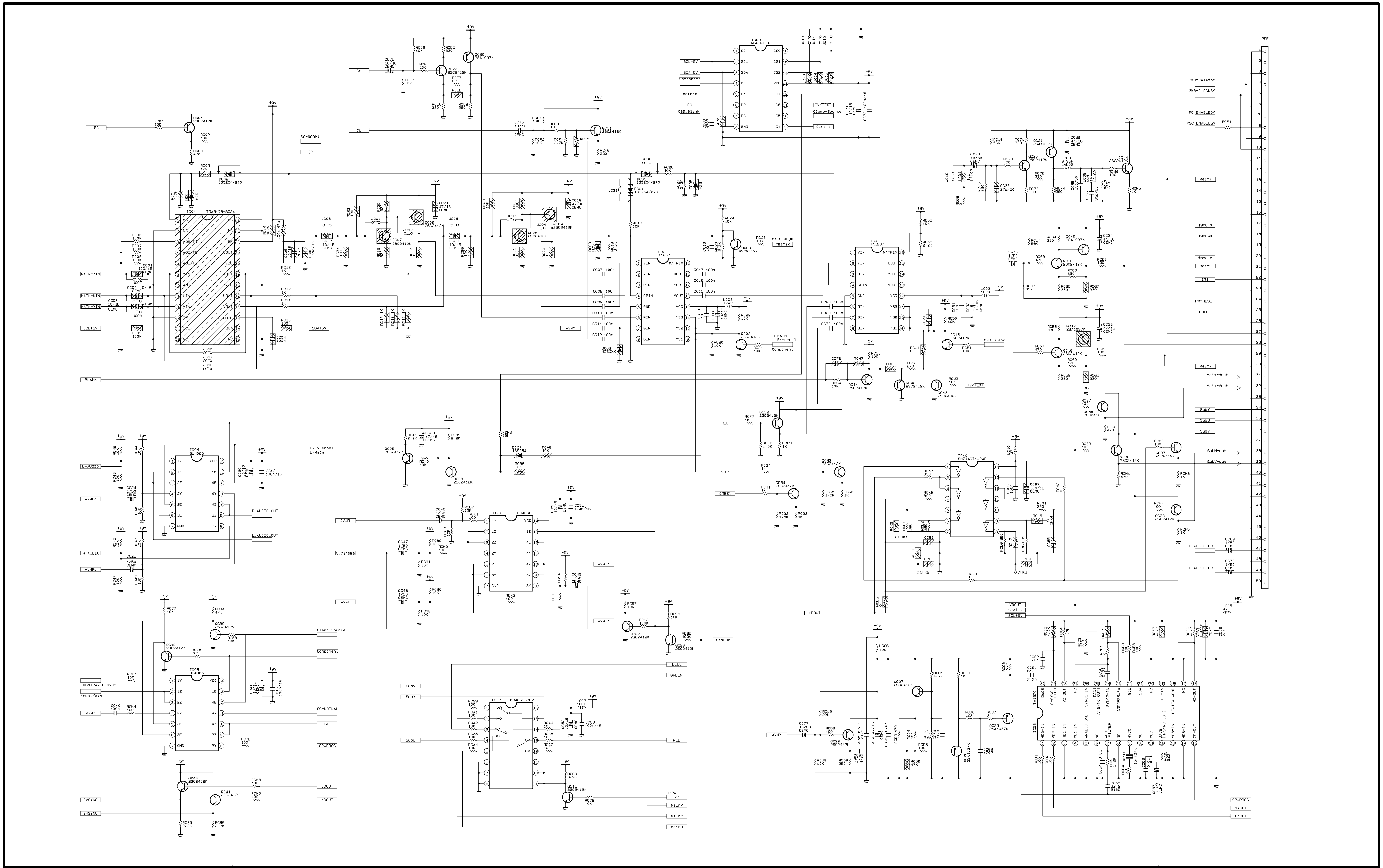
SM003	AV Board Sheet 1	HITACHI


JA01 HEADPHONE OUT (Front)
HEADPHONE_L
HEADPHONE_R
JX04
L/MONO CENTER
CVBS
FRONT-SVHS-SOCKET Sheet5
FRONTPANEL-CVBS Sheet1 Sheet2
FRONTPANEL-C Sheet1
Q313 BSS138
PL301
AUDIO-CL-OUT
C-CTR-I/O-1
I2S-CL
I2S-WS
I2S-DA-OUT
I2S-DA-IN1
I2S-DA-IN2
DACA-R
DACA-L
DACM-SUB
IC301 MSP3410G
SOUND-SWITCH Sheet1
SCL+5V
SDA+5V
MSP-RESET Sheet5
X300 18.432MHz
FRONT_L Sheet2
FRONT_R Sheet2
FRONTPANEL-CVBS Sheet1-2
MICRO-SW Sheet1
IF-SOUND-OUT Sheet1
AV1R Sheet7
AV1L Sheet7
AV2R Sheet7
AV2L Sheet7
AV3R Sheet7
AV3L Sheet7
SCART1L Sheet7
SCART1R Sheet7
SCART2L
SCART3L Sheet7
SCART2R
SCART3R Sheet7
R-AUDIO Sheet7
L-AUDIO Sheet7
SDA+5V Sheet1-2-6-7
SCL+5V Sheet1-2-6-7
IC300 TDA7433D
IC303 TDA2822D
J300 HSP-263
Monitor out
C_Cinema
AV4 Audio
AV4 Y CbCr/PbPr
VIDEO-PHONO Sheet1
AV4L
AV4R
AV4Y
Cb
Cr
+5V
+8V
+8V-F2
+5.5V1

SM003

AV Board Sheet 2

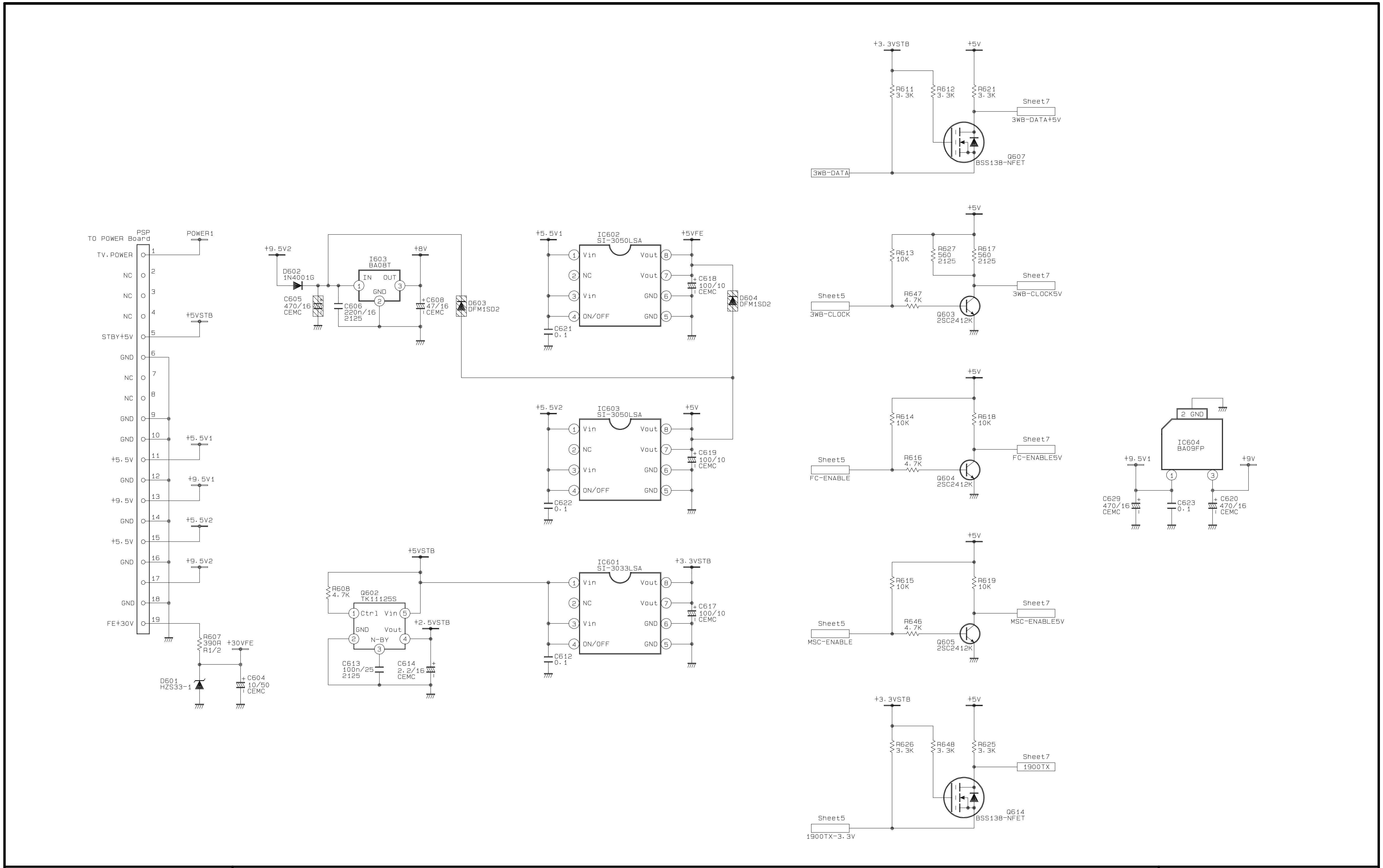
HITACHI


IC01 TDA9178-SO24
IC02 TA1287
IC03 TA1287
IC04 BU4066
IC05 BU4066
IC06 BU4066
IC07 BU4053BCFV
IC08 TA1370
IC09 M62320FP
IC10 SN74ACT14PWR
PSF
SC
Cr
Cb
SC-NORMAL
CP
BLANK
MAIN-YIN
MAIN-UIN
MAIN-VIN
SCL+5V
SDA+5V
Component
Matrix
PC
OSD_Blank
TV/TEXT
Clamp-Source
Cinema
H-Through
H:MAIN
L:External
AV4Y
L-AUDIO
AV4L0
R-AUDIO
AV4R0
R_AUDIO_OUT
L_AUDIO_OUT
H-External
L:Main
AV4R
C_Cinema
AV4L
FRONTPANEL-CVBS
Front/AV4
CP_PROG
2VSYNC
2HSYNC
VDOUT
HDOUT
BLUE
GREEN
RED
SubY
SubU
SubV
MainY
MainU
MainV
Main-Hout
Main-Vout
SubH-out
SubV-out
3WB-DATA+5V
3WB-CLOCK5V
FC-ENABLE5V
MSC-ENABLE5V
I900TX
I900RX
+5VSTB
IRI
PM-RESET
PODET
VAOUT
HAOUT
SDA+5V
SCL+5V

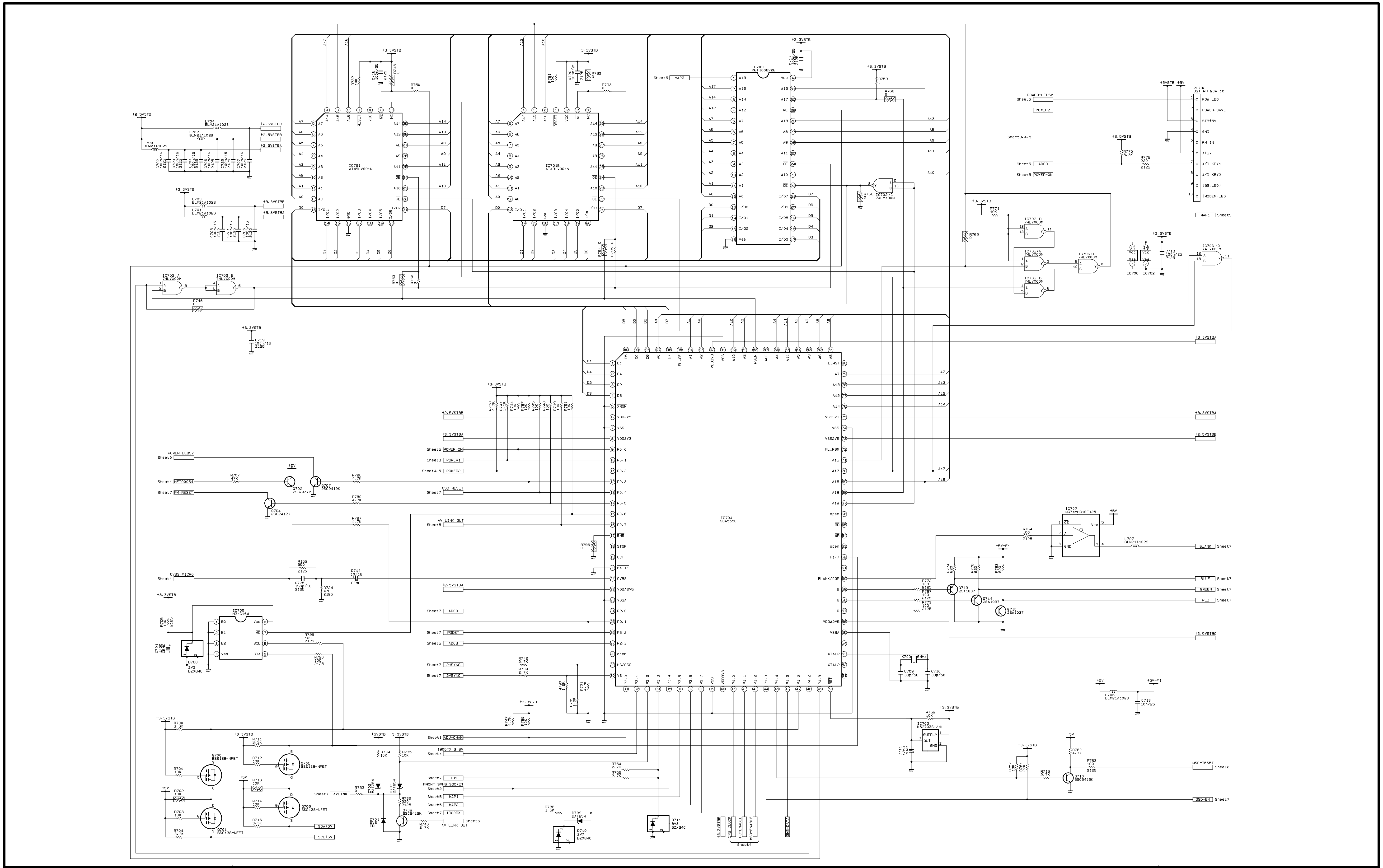
SM003

AV Board Sheet 3

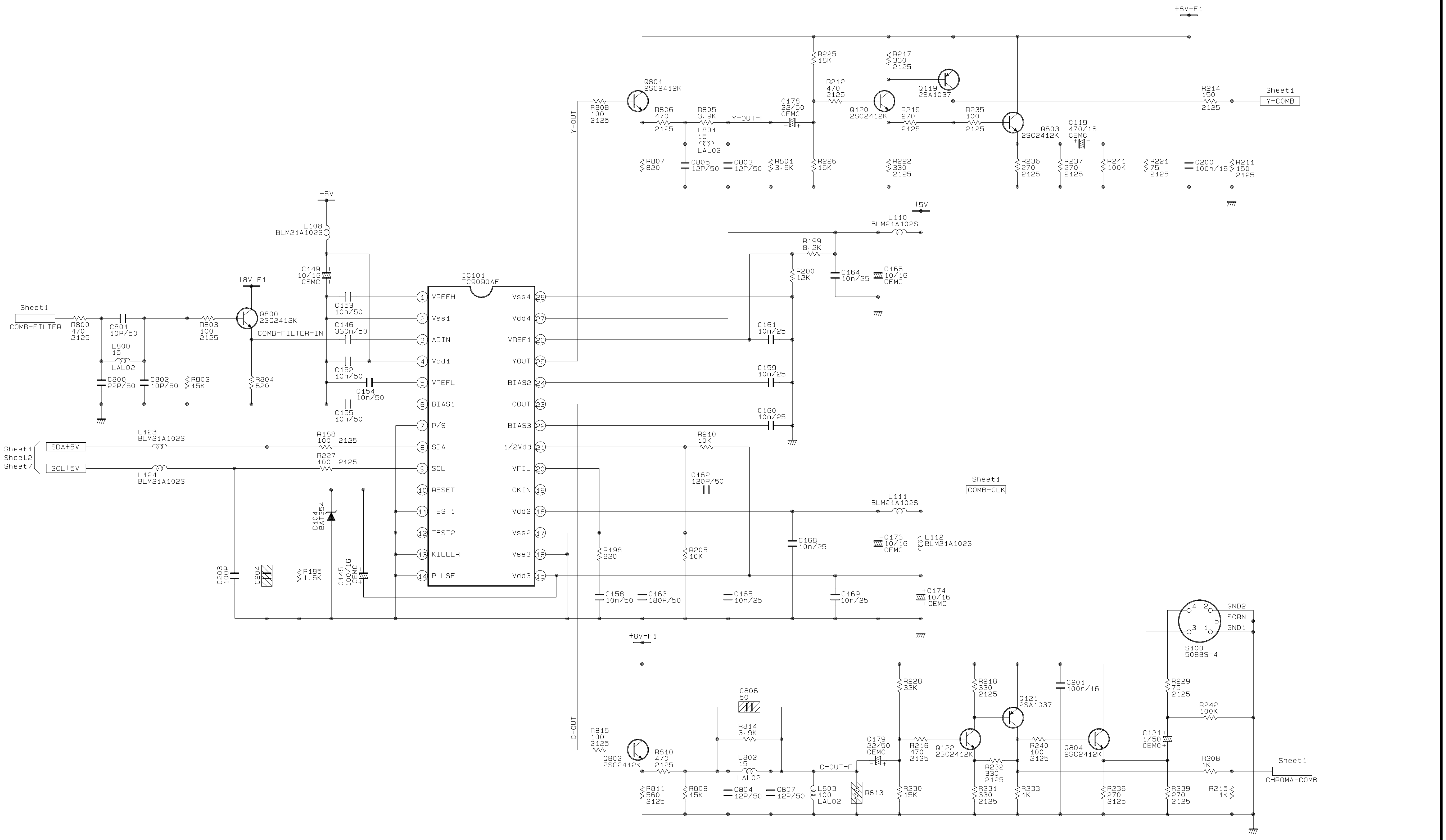
HITACHI


PSP
TO POWER Board
POWER1
TV.POWER 1
NC 2
NC 3
NC 4
+5VSTB
STBY+5V 5
GND 6
NC 7
NC 8
GND 9
GND 10
+5.5V1
+5.5V 11
GND 12
+9.5V1
+9.5V 13
GND 14
+5.5V2
+5.5V 15
GND 16
+9.5V2
17
GND 18
FE+30V 19
R607
390R
R1/2
+30VFE
D601
HZS33-1
C604
10/50
CEMC
+9.5V2
D602
1N4001G
C605
470/16
CEMC
C606
220n/16
2125
I603
BA08T
IN
OUT
GND
+8V
C608
47/16
CEMC
D603
DFM1SD2
+5.5V1
IC602
SI-3050LSA
Vin
NC
Vin
ON/OFF
Vout
Vout
GND
GND
+5VFE
C618
100/10
CEMC
D604
DFM1SD2
C621
0.1
+5.5V2
IC603
SI-3050LSA
+5V
C619
100/10
CEMC
C622
0.1
+5VSTB
R608
4.7K
Q602
TK11125S
Ctrl
Vin
GND
Vout
N-BY
+2.5VSTB
C613
100n/25
2125
C614
2.2/16
CEMC
IC601
SI-3033LSA
+3.3VSTB
C617
100/10
CEMC
C612
0.1
+3.3VSTB
+5V
R611
3.3K
R612
3.3K
R621
3.3K
Sheet7
3WB-DATA+5V
Q607
BSS138-NFET
3WB-DATA
+5V
R613
10K
R627
560
2125
R617
560
2125
Sheet7
3WB-CLOCK5V
Sheet5
3WB-CLOCK
R647
4.7K
Q603
2SC2412K
+5V
R614
10K
R618
10K
Sheet7
FC-ENABLE5V
Sheet5
FC-ENABLE
R616
4.7K
Q604
2SC2412K
+5V
R615
10K
R619
10K
Sheet7
MSC-ENABLE5V
Sheet5
MSC-ENABLE
R646
4.7K
Q605
2SC2412K
+3.3VSTB
+5V
R626
3.3K
R648
3.3K
R625
3.3K
Sheet7
1900TX
Q614
BSS138-NFET
Sheet5
1900TX-3.3V
2 GND
IC604
BA09FP
+9.5V1
+9V
C629
470/16
CEMC
C623
0.1
C620
470/16
CEMC

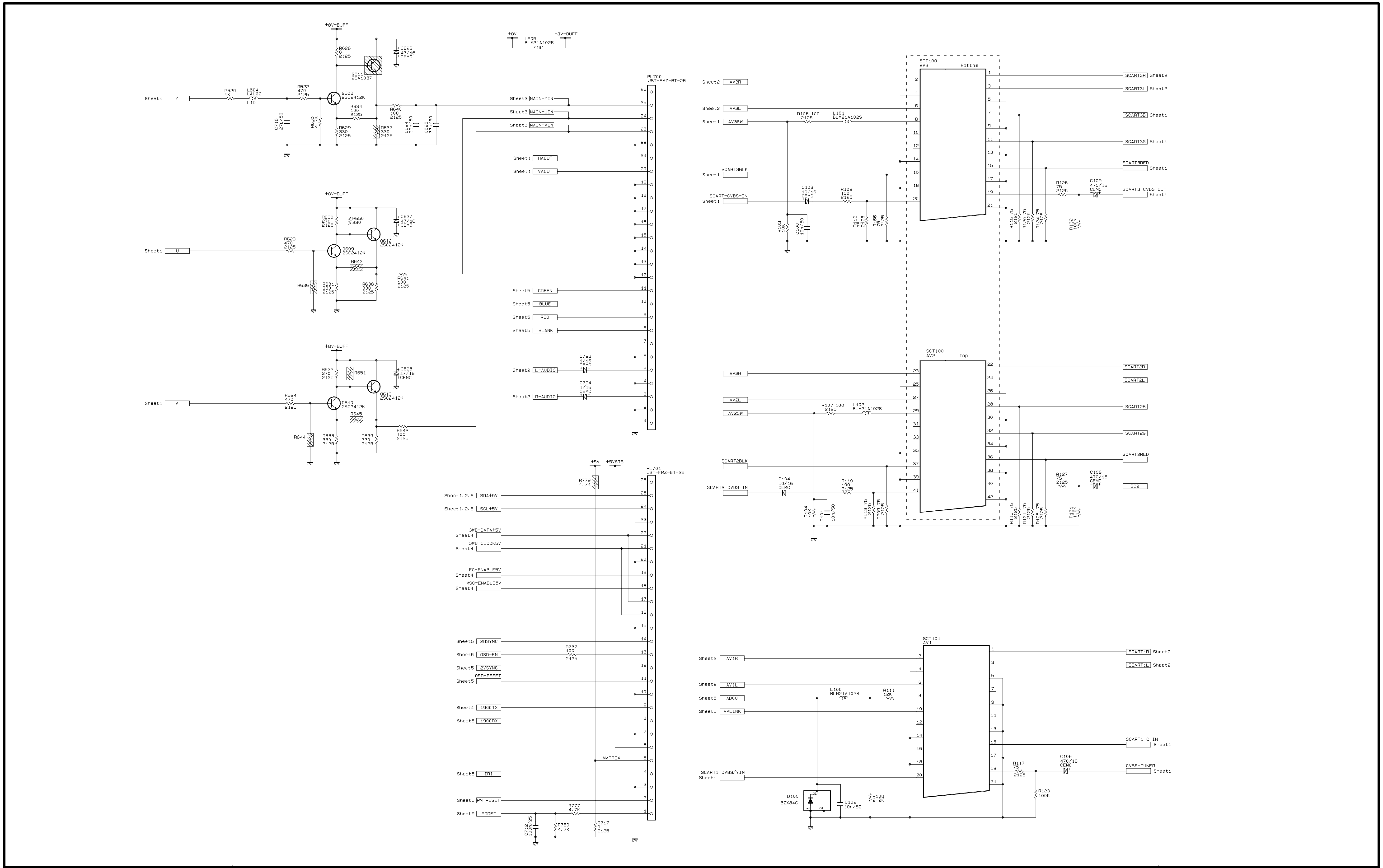
SM003	AV Board Sheet 4	HITACHI


IC701 AT49LV001N
IC701B AT49LV001N
IC703 K6T1008V2E
IC704 SDA5550
IC700 M24C16W
IC702 74LVX00M
IC706 74LVX00M
IC707 MC74VHC1GT125
IC705 M62703SL/ML
PL702 JST-PH-2SP-10
X700
Q700 BSS138-NFET
Q701 BSS138-NFET
Q705 BSS138-NFET
Q706 BSS138-NFET
Q702 2SC2412K
Q704 2SC2412K
Q707 2SC2412K
Q709 2SC2412K
Q710 2SC2412K
Q713 2SA1037
Q714 2SA1037
Q715 2SA1037
+3.3VSTB
+2.5VSTB
+5V
Sheet4
Sheet5
Sheet7

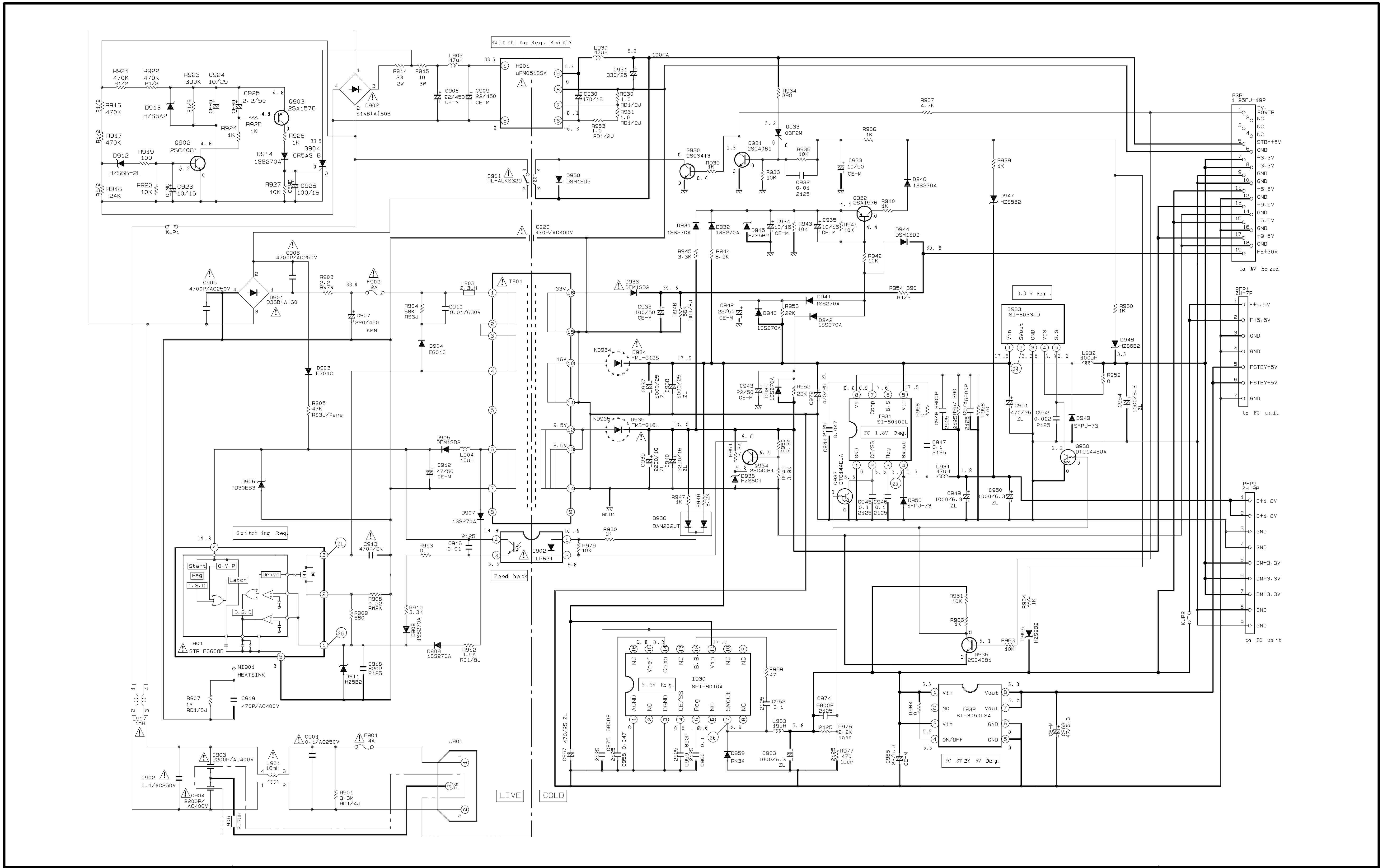
SM003	AV Board Sheet 5	HITACHI


+8V-F1
R225 18K
R217 330 2125
Q119 2SA1037
Q801 2SC2412K
R212 470 2125
Q120 2SC2412K
R214 150 2125
Sheet1
Y-COMB
R808 100 2125
Y-OUT
R806 470 2125
R805 3.9K
L801 15 LAL02
Y-OUT-F
C178 22/50 CEMC
R219 270 2125
R235 100 2125
Q803 2SC2412K
C119 470/16 CEMC
R807 820
C805 12P/50
C803 12P/50
R801 3.9K
R226 15K
R222 330 2125
R236 270 2125
R237 270 2125
R241 100K
R221 75 2125
C200 100n/16
R211 150 2125
+5V
L108 BLM21A102S
L110 BLM21A102S
R199 8.2K
C149 10/16 CEMC
R200 12K
C164 10n/25
C166 10/16 CEMC
+8V-F1
IC101 TC9090AF
Sheet1
COMB-FILTER
R800 470 2125
C801 10P/50
L800 15 LAL02
R803 100 2125
Q800 2SC2412K
COMB-FILTER-IN
C153 10n/50
C146 330n/50
C152 10n/50
C154 10n/50
C155 10n/50
C800 22P/50
C802 10P/50
R802 15K
R804 820
1 VREFH
2 Vss1
3 ADIN
4 Vdd1
5 VREFL
6 BIAS1
7 P/S
8 SDA
9 SCL
10 RESET
11 TEST1
12 TEST2
13 KILLER
14 PLLSEL
28 Vss4
27 Vdd4
26 VREF1
25 YOUT
24 BIAS2
23 COUT
22 BIAS3
21 1/2Vdd
20 VFIL
19 CKIN
18 Vdd2
17 Vss2
16 Vss3
15 Vdd3
C161 10n/25
C159 10n/25
C160 10n/25
Sheet1
Sheet2
Sheet7
SDA+5V
SCL+5V
L123 BLM21A102S
L124 BLM21A102S
R188 100 2125
R227 100 2125
R210 10K
C162 120P/50
Sheet1
COMB-CLK
L111 BLM21A102S
D104 BAT254
C203 100P
C204
R185 1.5K
C145 100/16 CEMC
R198 820
R205 10K
C168 10n/25
C173 10/16 CEMC
L112 BLM21A102S
C158 10n/50
C163 180P/50
C165 10n/25
C169 10n/25
C174 10/16 CEMC
GND2
SCRN
GND1
S100 50BBS-4
+8V-F1
R228 33K
R218 330 2125
C201 100n/16
Q121 2SA1037
R229 75 2125
R242 100K
C806 50
R814 3.9K
C-OUT
R815 100 2125
Q802 2SC2412K
R810 470 2125
L802 15 LAL02
C179 22/50 CEMC
C-OUT-F
R216 470 2125
Q122 2SC2412K
R240 100 2125
Q804 2SC2412K
C121 1/50 CEMC
R208 1K
Sheet1
CHROMA-COMB
R232 330 2125
R811 560 2125
R809 15K
C804 12P/50
C807 12P/50
L803 100 LAL02
R813
R230 15K
R231 330 2125
R233 1K
R238 270 2125
R239 270 2125
R215 1K

SM003	AV Board Sheet 6	HITACHI


+8V-BUFF
R628
0
2125
C626
47/16
CEMC
Q611
2SA1037
+8V
L605
BLM21A102S
+8V-BUFF
Sheet1
Y
R620
1K
L604
LAL02
L10
R622
470
2125
Q608
2SC2412K
R634
100
2125
R640
100
2125
C715
27P/50
R635
4.7K
R629
330
2125
R637
330
2125
C624
33P/50
C625
33P/50
PL700
JST-FMZ-BT-26
Sheet3
MAIN-YIN
MAIN-UIN
MAIN-VIN
Sheet1
HAOUT
VAOUT
+8V-BUFF
R630
270
2125
R650
330
C627
47/16
CEMC
Q612
2SC2412K
Sheet1
U
R623
470
2125
Q609
2SC2412K
R643
R641
100
2125
R636
R631
330
2125
R638
330
2125
Sheet5
GREEN
BLUE
RED
BLANK
+8V-BUFF
R632
270
2125
R651
C628
47/16
CEMC
Q613
2SC2412K
Sheet1
V
R624
470
2125
Q610
2SC2412K
R645
R642
100
2125
R644
R633
330
2125
R639
330
2125
C723
1/16
CEMC
Sheet2
L-AUDIO
C724
1/16
CEMC
R-AUDIO
+5V
+5VSTB
PL701
JST-FMZ-BT-26
R779
4.7K
Sheet1,2,6
SDA+5V
SCL+5V
3WB-DATA+5V
Sheet4
3WB-CLOCK5V
FC-ENABLE5V
MSC-ENABLE5V
Sheet5
2HSYNC
R737
100
2125
OSD-EN
2VSYNC
OSD-RESET
Sheet4
1900TX
Sheet5
1900RX
MATRIX
IR1
PM-RESET
PODET
R777
4.7K
C712
100n/25
R780
4.7K
R717
0
2125
SCT100
AV3
Bottom
Sheet2
AV3R
AV3L
Sheet1
AV3SW
R105 100
2125
L101
BLM21A102S
SCART3BLK
SCART-CVBS-IN
C103
10/16
CEMC
R109
100
2125
R103
10K
C105
10n/50
R112
75
2125
R166
75
2125
SCART3R
SCART3L
SCART3B
SCART3G
SCART3RED
R126
75
2125
C109
470/16
CEMC
SCART3-CVBS-OUT
R115 75
R120 75
R124 75
R102
100K
SCT100
AV2
Top
AV2R
AV2L
AV2SW
R107 100
2125
L102
BLM21A102S
SCART2BLK
SCART2-CVBS-IN
C104
10/16
CEMC
R110
100
2125
R104
10K
C101
10n/50
R113 75
R209 75
SCART2R
SCART2L
SCART2B
SCART2G
SCART2RED
R127
75
2125
C108
470/16
CEMC
SC2
R116 75
R121 75
R125 75
R131
100K
SCT101
AV1
AV1R
AV1L
Sheet5
ADC0
AVLINK
L100
BLM21A102S
R111
12K
SCART1-CVBS/YIN
D100
BZX84C
C102
10n/50
R108
2.2K
SCART1R
SCART1L
SCART1-C-IN
R117
75
2125
C106
470/16
CEMC
CVBS-TUNER
R123
100K

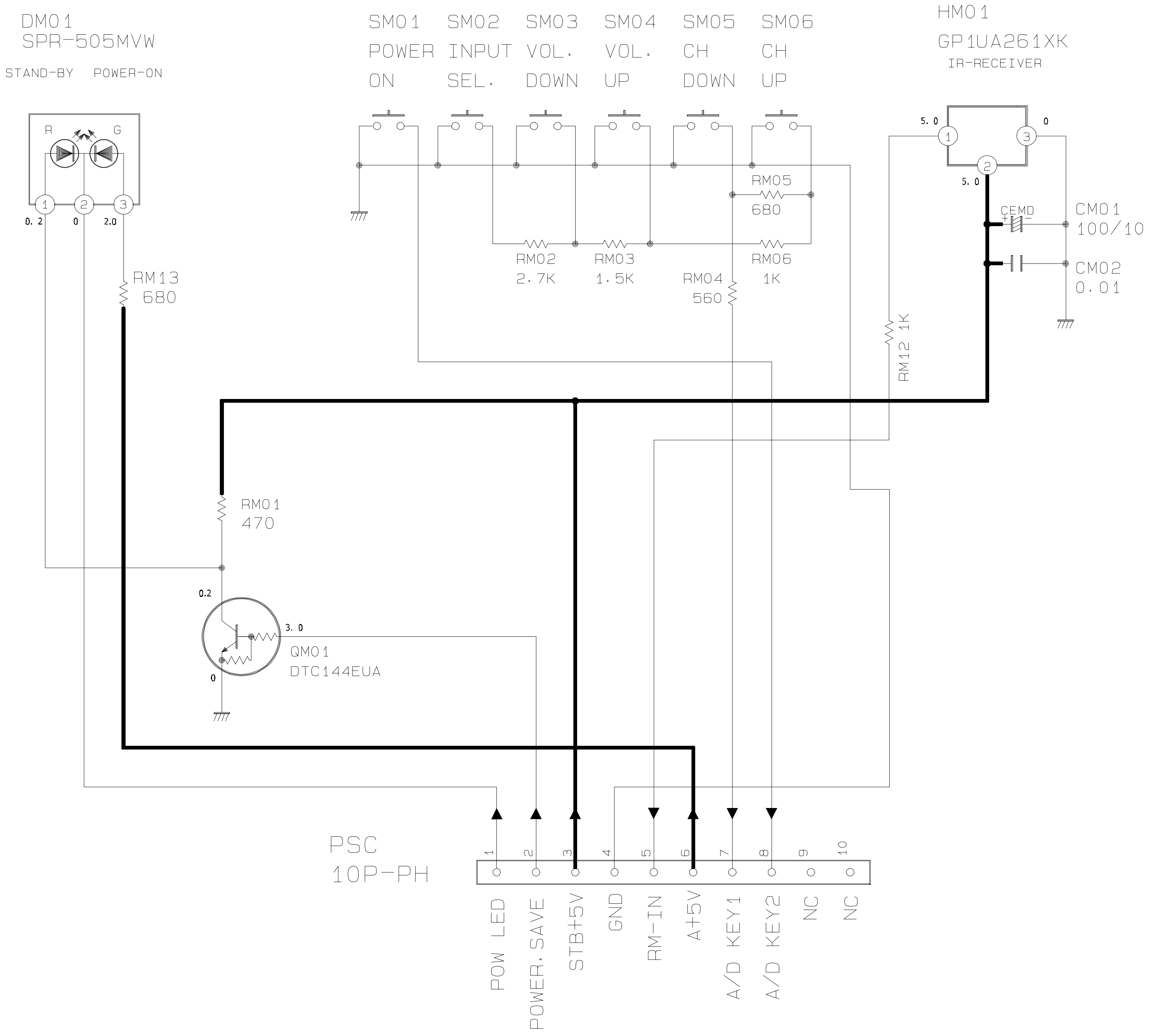
SM003	AV Board Sheet 7	HITACHI


Switching Reg. Module
H901
uPM0518SA
L902
47uH
L930
47uH
C931
330/25
100mA
R921
470K
R1/2
R922
470K
R1/2
R923
390K
C924
10/25
C925
2.2/50
Q903
2SA1576
R916
470K
D913
HZS6A2
R917
470K
D912
HZS6B-2L
R919
100
Q902
2SC4081
R924
1K
R925
1K
R926
1K
D914
1SS270A
Q904
CR5AS-8
R918
24K
R920
10K
C923
10/16
R927
10K
C926
100/16
D902
S1WB(A)60B
R914
33
2W
R915
10
3W
C908
22/450
CE-M
C909
22/450
CE-M
C930
470/16
R930
1.0
RD1/2J
R931
1.0
RD1/2J
R983
1.0
RD1/2J
R934
390
R937
4.7K
Q933
03P2M
Q930
2SC3413
Q931
2SC4081
R932
1K
R933
10K
R935
10K
C932
0.01
2125
R936
1K
C933
10/50
CE-M
D946
1SS270A
R939
1K
D947
HZS5B2
Q932
2SA1576
R940
1K
S901
RL-ALKS329
D930
DSM1SD2
KJP1
C920
470P/AC400V
C906
4700P/AC250V
C905
4700P/AC250V
D901
D3SB(A)60
R903
2.2
RW7M
F902
2A
C907
220/450
KMM
L903
2.3uH
T901
R904
68K
RS3J
C910
0.01/630V
D904
EG01C
D903
EG01C
R905
47K
RS3J/Pana
D931
1SS270A
D932
1SS270A
D945
HZS5B2
C934
10/16
CE-M
R943
10K
C935
10/16
CE-M
R941
10K
D944
DSM1SD2
30.8
R945
3.3K
R944
8.2K
R942
10K
D933
DFM1SD2
34.6
C936
100/50
CE-M
R946
56K
RD1/8J
C942
22/50
CE-M
D940
1SS270A
R953
22K
D941
1SS270A
D942
1SS270A
R954 390
R1/2
3.3 V Reg.
I933
SI-8033JD
R960
1K
D948
HZS6B2
L932
100uH
R959
0
ND934
D934
FML-G12S
17.5
C937
1000/25
ZL
C938
1000/25
ZL
C943
22/50
CE-M
D939
1SS270A
R952
22K
C972
470/25
ZL
I931
SI-8010GL
FC 1.8V Reg.
R956
0
C948 6800P
2125
R957 390
C973 6800P
2125
R958
470
C951
470/25
ZL
C952
0.022
2125
D949
SFPJ-73
C954
1000/6.3
ZL
Q938
DTC144EUA
ND935
D935
FMB-G16L
10.0
C939
2200/16
ZL
C940
2200/16
ZL
R951
2.2K
Q934
2SC4081
D938
HZS6C1
R950
2.2K
R949
3.9K
C944 2125
0.047
Q937
DTC144EUA
C945
0.1
2125
C946
0.1
2125
C947
0.1
2125
L931
47uH
D950
SFPJ-73
C949
1000/6.3
ZL
C950
1000/6.3
ZL
D905
DFM1SD2
L904
10uH
C912
47/50
CE-M
D906
RD30EB3
D907
1SS270A
R947
1K
R948
8.2K
GND1
D936
DAN202UT
Switching Reg.
I902
TLP621
C916
0.01
R913
0
R980
1K
R979
10K
Feed back
C913
470P/2K
Start
O.V.P
Reg
Latch
Drive
T.S.D
D.S.D
I901
STR-F6668B
R908
0.22
RW2K
R909
680
R910
3.3K
D909
1SS270A
D908
1SS270A
R912
1.5K
RD1/8J
C918
820P
2125
D911
HZ5B2
NI901
HEATSINK
R907
1M
RD1/8J
C919
470P/AC400V
L907
1mH
C902
0.1/AC250V
C903
2200P/AC400V
C904
2200P/AC400V
L901
16mH
L906
2.3uH
C901
0.1/AC250V
F901
4A
R901
3.3M
RD1/4J
J901
L
FG
N
LIVE
COLD
I930
SPI-8010A
5.5V Reg.
Vref
Comp
B.S
Vin
AGND
DGND
CE/SS
Reg
SWout
R969
47
C962
0.1
2125
L933
15uH
C974
6800P
2125
R976
2.2K
1per
R977
470
1per
C963
1000/6.3
ZL
D959
RK34
C957 470/25 ZL
C975 6800P
C958 0.047
C959 820P
C960 0.1
R961
10K
R986
1K
Q936
2SC4081
R963
10K
R964
1K
D965
HZS9B2
KJP2
I932
SI-3050LSA
Vin
Vout
NC
GND
ON/OFF
R984
0
C965
22/6.3
CE-M
C968
47/6.3
CE-M
FC STBY 5V Reg.
PSP
1.25FJ-19P
TV. POWER
NC
STBY+5V
GND
+3.3V
+5.5V
+9.5V
FE+30V
to AV board
PFP1
ZH-7P
F+5.5V
FSTBY+5V
to FC unit
PFP2
ZH-9P
D+1.8V
DM+3.3V

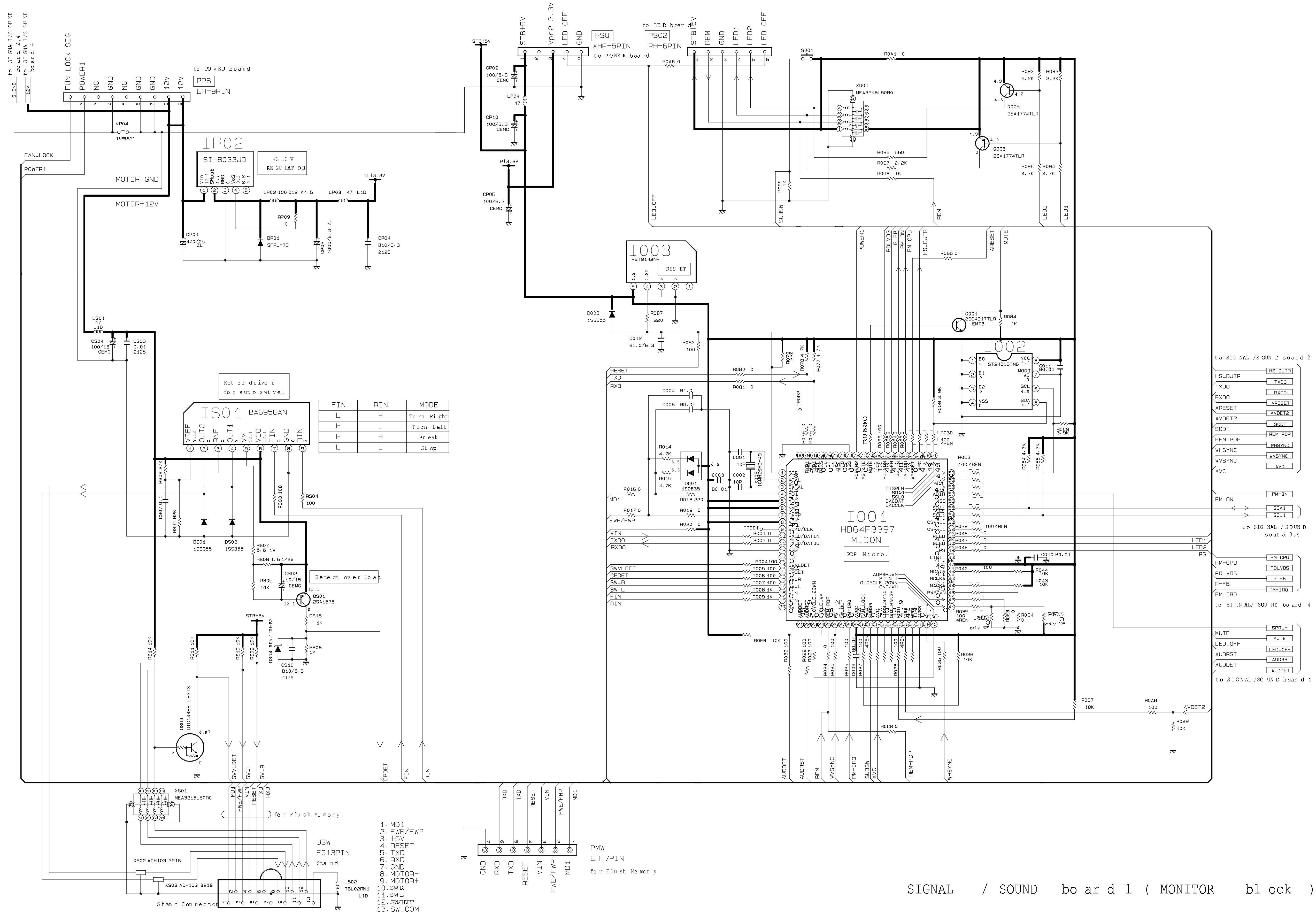
SM003

AV Power Circuit

HITACHI


DM01
SPR-505MVW
STAND-BY
POWER-ON
R
G
1
2
3
0.2
0
2.0
RM13
680
SM01
POWER
ON
SM02
INPUT
SEL.
SM03
VOL.
DOWN
SM04
VOL.
UP
SM05
CH
DOWN
SM06
CH
UP
RM05
680
RM02
2.7K
RM03
1.5K
RM04
560
RM06
1K
HM01
GP1UA261XK
IR-RECEIVER
5.0
0
5.0
1
2
3
CEMD
CM01
100/10
CM02
0.01
RM12 1K
RM01
470
0.2
3.0
0
QM01
DTC144EUA
PSC
10P-PH
1
2
3
4
5
6
7
8
9
10
POW LED
POWER.SAVE
STB+5V
GND
RM-IN
A+5V
A/D KEY1
A/D KEY2
NC
NC

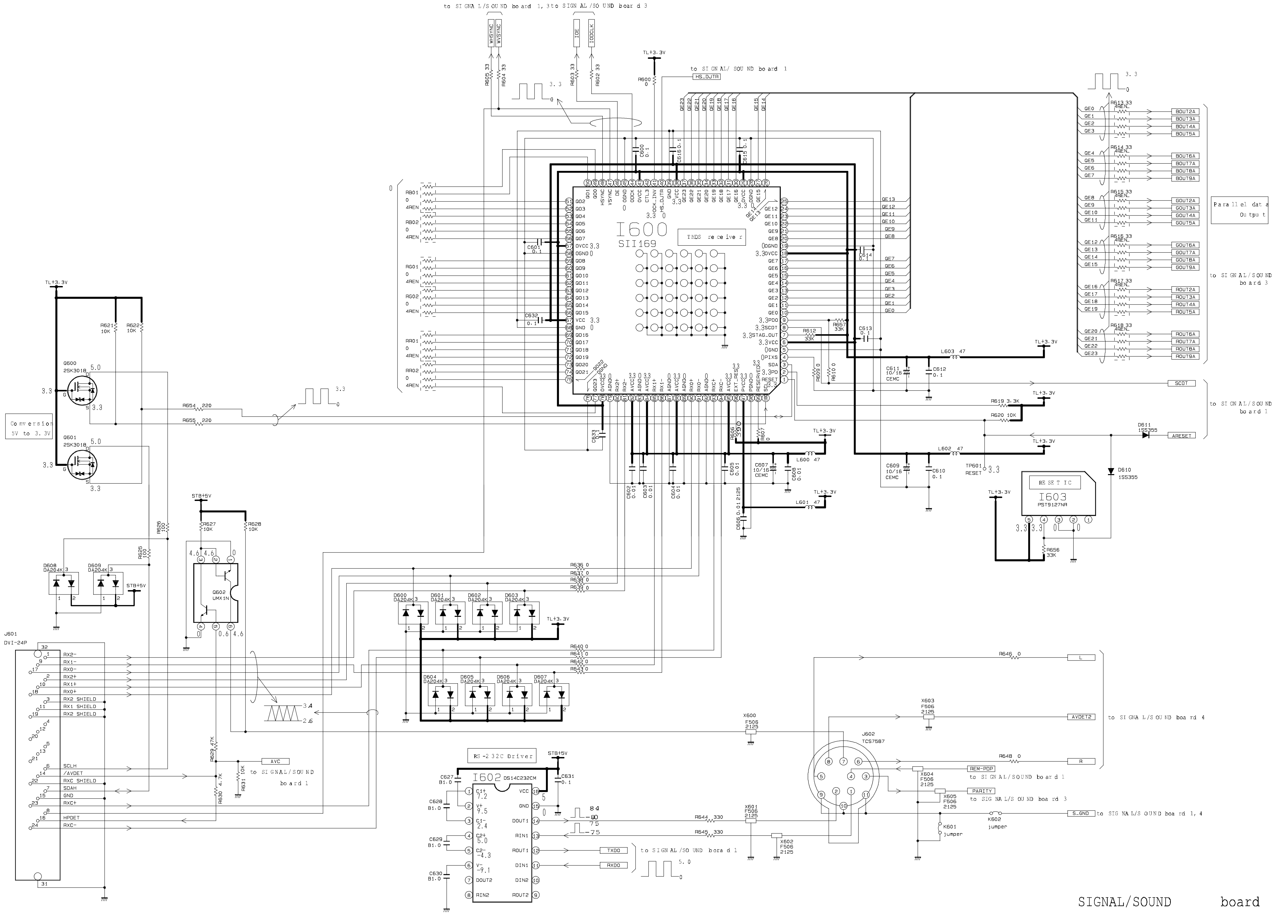
SM003	AV Control Circuit	HITACHI


to SIGNAL/SOUND board 2,4
FUN LOCK SIG
POWER1
PPS
EH-9PIN
to POWER board
KP04 jumper
FAN_LOCK
MOTOR GND
MOTOR+12V
IP02
SI-8033JD
+3.3V REGULATOR
LP02 100 C12-K4.5
LP03 47 L1D
TL+3.3V
DP01 SFPJ-73
CP01 470/25
CP02 1000/6.3
CP04 B10/6.3
STB+5V
Vpr2 3.3V
LED OFF
GND
PSU
XHP-5PIN
to POWER board
PSC2
PH-6PIN
to LED board
REM
LED1
LED2
S001
XD01 MEA3216L50R0
Q005 2SA1774TLR
Q006 2SA1774TLR
IO03
PST9142NR
RESET
D003 1SS355
Q001 2SC4617TLR
IO02
ST24C16FM6
IO01
HD64F3397
MICON
PDP Micro.
LS01 47 L1D
CS04 100/16
CS03 0.01
Motor driver for auto swivel
IS01
BA6956AN
DS01 1SS355
DS02 1SS355
Detect over load
QS01 2SA1576
QS04 DTC144EETLEMT3
XS01 MEA3216L50R0
XS02 ACH103 3218
XS03 ACH103 3218
for Flush Memory
JSW
FG13PIN
Stand
LS02 TBL02RN1 L1D
Stand Connector
1. MD1
2. FWE/FWP
3. +5V
4. RESET
5. TXD
6. RXD
7. GND
8. MOTOR-
9. MOTOR+
10. SW-R
11. SW-L
12. SWVDET
13. SW_COM
PMW
EH-7PIN
for Flush Memory
to SIGNAL/SOUND board 2
HS_DJTR
TXDO
RXDO
ARESET
AVDET2
SCDT
REM-PDP
WHSYNC
WVSYNC
AVC
PM-ON
SDA1
SCL1
to SIGNAL/SOUND board 3,4
LED1
LED2
PS
PM-CPU
PDLVDS
R-FB
PM-IRQ
to SIGNAL/SOUND board 4
MUTE
LED_OFF
AUDRST
AUDDET
SPRLY
to SIGNAL/SOUND board 4

FIN	RIN	MODE
L	H	Turn Right
H	L	Turn Left
H	H	Break
L	L	Stop

SIGNAL / SOUND board 1 (MONITOR block)

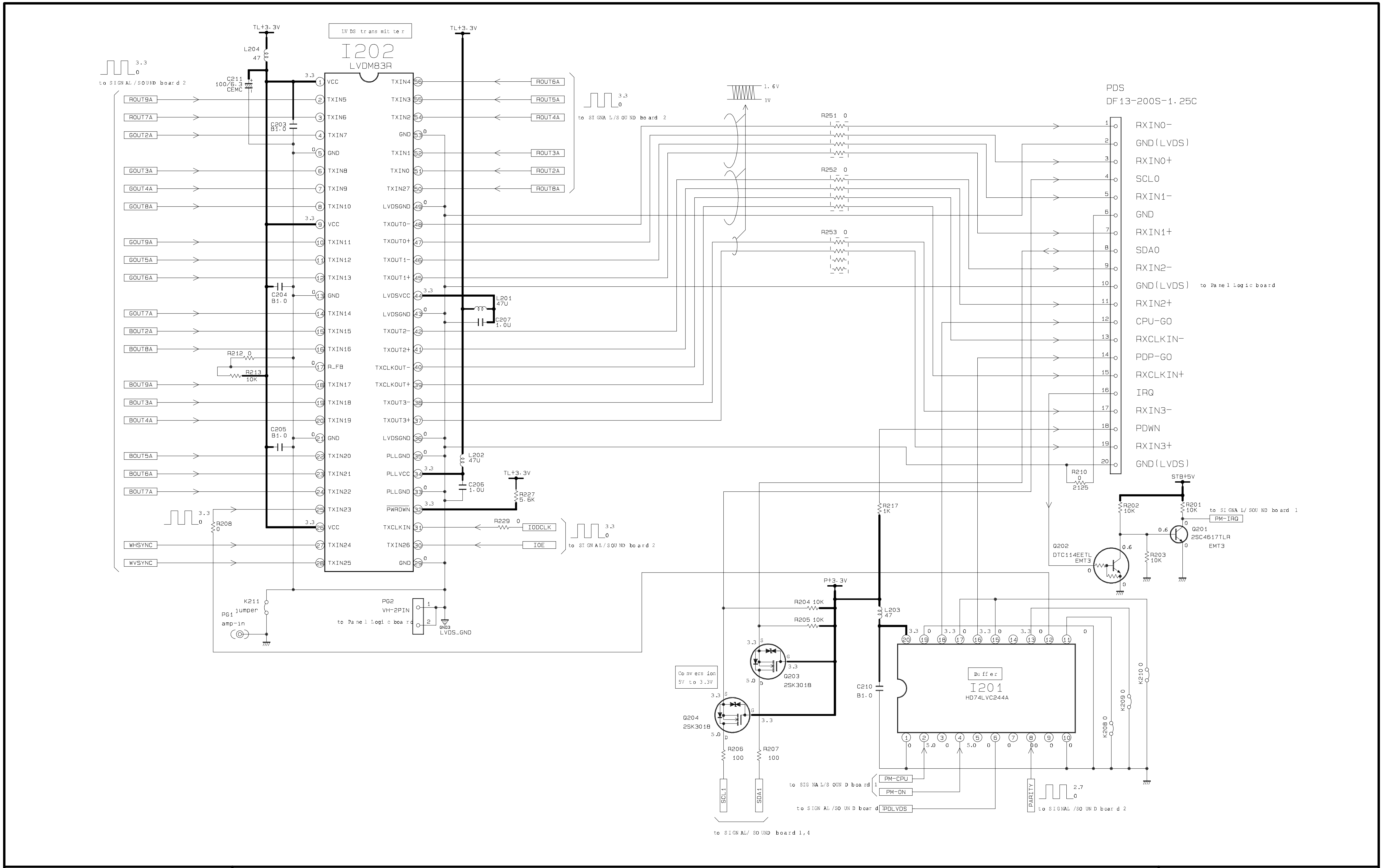
SM003	Signal/Sound Board Sheet 1	HITACHI


to SIGNAL/SOUND board 1, 3
to SIGNAL/SOUND board 3
WHSYNC
WVSYNC
IDE
IODCLK
TL+3.3V
to SIGNAL/SOUND board 1
HS_DJTR
I600
SII169
TMDS receiver
Parallel data Output
to SIGNAL/SOUND board 3
to SIGNAL/SOUND board 1
BOUT2A
BOUT3A
BOUT4A
BOUT5A
BOUT6A
BOUT7A
BOUT8A
BOUT9A
GOUT2A
GOUT3A
GOUT4A
GOUT5A
GOUT6A
GOUT7A
GOUT8A
GOUT9A
ROUT2A
ROUT3A
ROUT4A
ROUT5A
ROUT6A
ROUT7A
ROUT8A
ROUT9A
SCDT
ARESET
D610 1SS355
D611 1SS355
RESET IC
I603
PST9127NR
TP601 RESET
Conversion 5V to 3.3V
Q600 2SK3018
Q601 2SK3018
Q602 UMX1N
D608 DA204K
D609 DA204K
D600 DA204K
D601 DA204K
D602 DA204K
D603 DA204K
D604 DA204K
D605 DA204K
D606 DA204K
D607 DA204K
J601
DVI-24P
RX2-
RX1-
RX0-
RX2+
RX1+
RX0+
RX2 SHIELD
RX1 SHIELD
RX2 SHIELD
SCLH
/AVDET
RXC SHIELD
SDAH
GND
RXC+
HPDET
RXC-
AVC
to SIGNAL/SOUND board 1
RS-232C Driver
I602
DS14C232CM
STB+5V
TXDO
RXDO
to SIGNAL/SOUND bora d 1
L
AVDET2
to SIGNAL/SOUND board 4
R
REM-PDP
to SIGNAL/SOUND board 1
PARITY
to SIGNAL/SOUND board 3
S_GND
to SIGNAL/SOUND board 1, 4
J602
TCS7587
X600 F506 2125
X601 F506 2125
X602 F506 2125
X603 F506 2125
X604 F506 2125
X605 F506 2125
K601 jumper
K602 jumper
SIGNAL/SOUND board

SM003

Signal/Sound Board Sheet 2

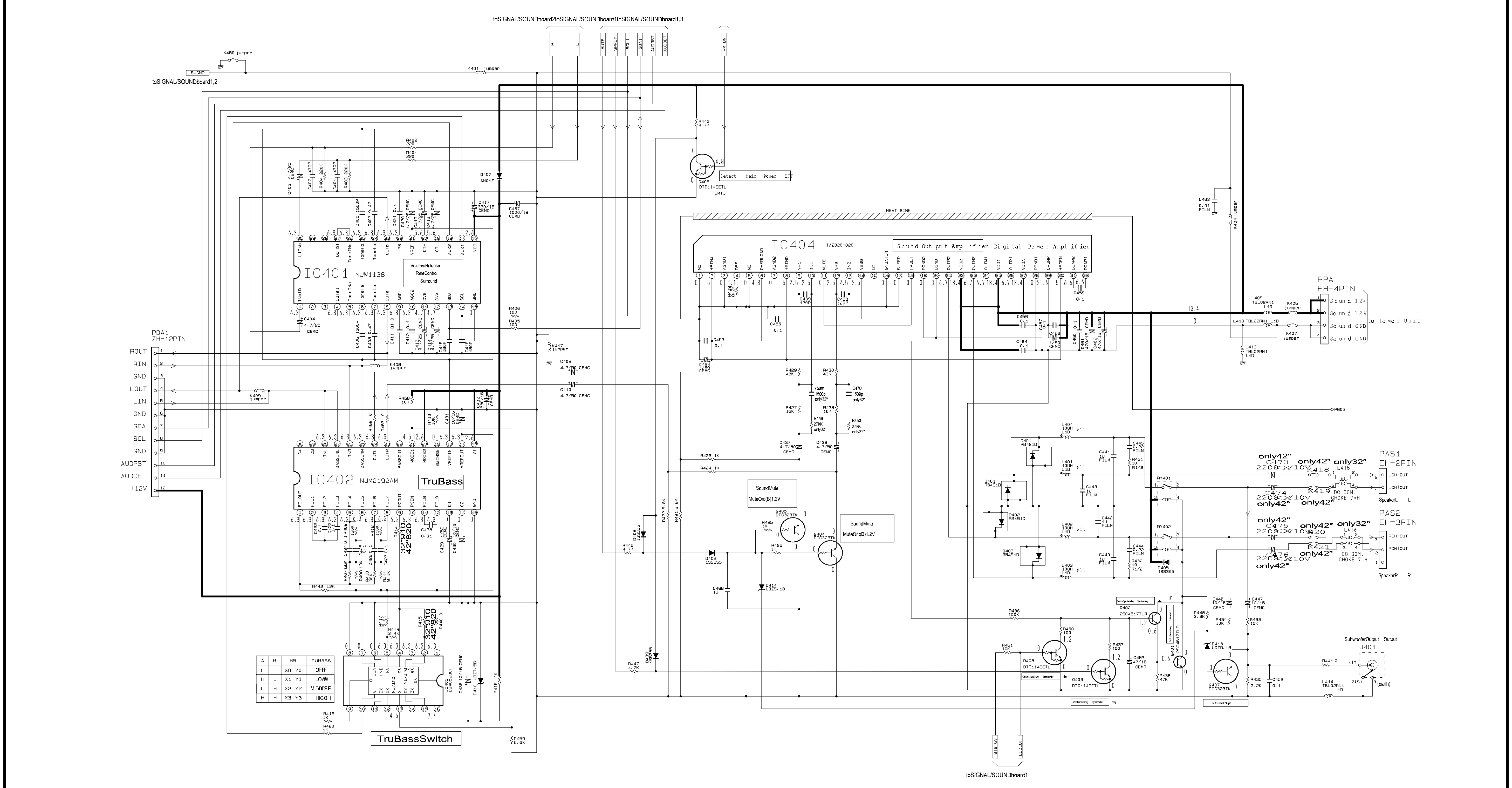
HITACHI


LVDS transmitter
I202
LVDM83R
TL+3.3V
L204 47
C211 100/6.3 CEMC
C203 B1.0
C204 B1.0
C205 B1.0
R212 0
R213 10K
R208 0
to SIGNAL/SOUND board 2
ROUT9A
ROUT7A
GOUT2A
GOUT3A
GOUT4A
GOUT8A
GOUT9A
GOUT5A
GOUT6A
GOUT7A
BOUT2A
BOUT8A
BOUT9A
BOUT3A
BOUT4A
BOUT5A
BOUT6A
BOUT7A
WHSYNC
WVSYNC
VCC
TXIN5
TXIN6
TXIN7
GND
TXIN8
TXIN9
TXIN10
TXIN11
TXIN12
TXIN13
TXIN14
TXIN15
TXIN16
R_FB
TXIN17
TXIN18
TXIN19
TXIN20
TXIN21
TXIN22
TXIN23
TXIN24
TXIN25
TXIN4
TXIN3
TXIN2
TXIN1
TXIN0
TXIN27
LVDSGND
TXOUT0-
TXOUT0+
TXOUT1-
TXOUT1+
LVDSVCC
TXOUT2-
TXOUT2+
TXCLKOUT-
TXCLKOUT+
TXOUT3-
TXOUT3+
PLLGND
PLLVCC
PWRDWN
TXCLKIN
TXIN26
ROUT6A
ROUT5A
ROUT4A
ROUT3A
ROUT2A
ROUT8A
L201 47U
C207 1.0U
L202 47U
C206 1.0U
R227 5.6K
R229 0
IODCLK
IOE
K211 jumper
PG1 amp-in
PG2 VH-2PIN
to Panel Logic board
GND3
LVDS_GND
1.6V
1V
R251 0
R252 0
R253 0
PDS
DF13-20DS-1.25C
RXIN0-
GND(LVDS)
RXIN0+
SCL0
RXIN1-
GND
RXIN1+
SDA0
RXIN2-
RXIN2+
CPU-GO
RXCLKIN-
PDP-GO
RXCLKIN+
IRQ
RXIN3-
PDWN
RXIN3+
R210 0 2125
STB+5V
R202 10K
R201 10K
to SIGNAL/SOUND board 1
PM-IRQ
Q201 2SC4617TLR EMT3
Q202 DTC114EETL EMT3
R203 10K
R217 1K
P+3.3V
R204 10K
R205 10K
L203 47
Q203 2SK3018
Q204 2SK3018
Conversion 5V to 3.3V
C210 B1.0
Buffer
I201
HD74LVC244A
K208 0
K209 0
K210 0
R206 100
R207 100
SCL1
SDA1
to SIGNAL/SOUND board 1,4
to SIGNAL/SOUND board 1
PM-CPU
PM-ON
to SIGNAL/SOUND board 1
PDLVDS
PARITY
to SIGNAL/SOUND board 2

SM003

Signal/Sound Board Sheet 3

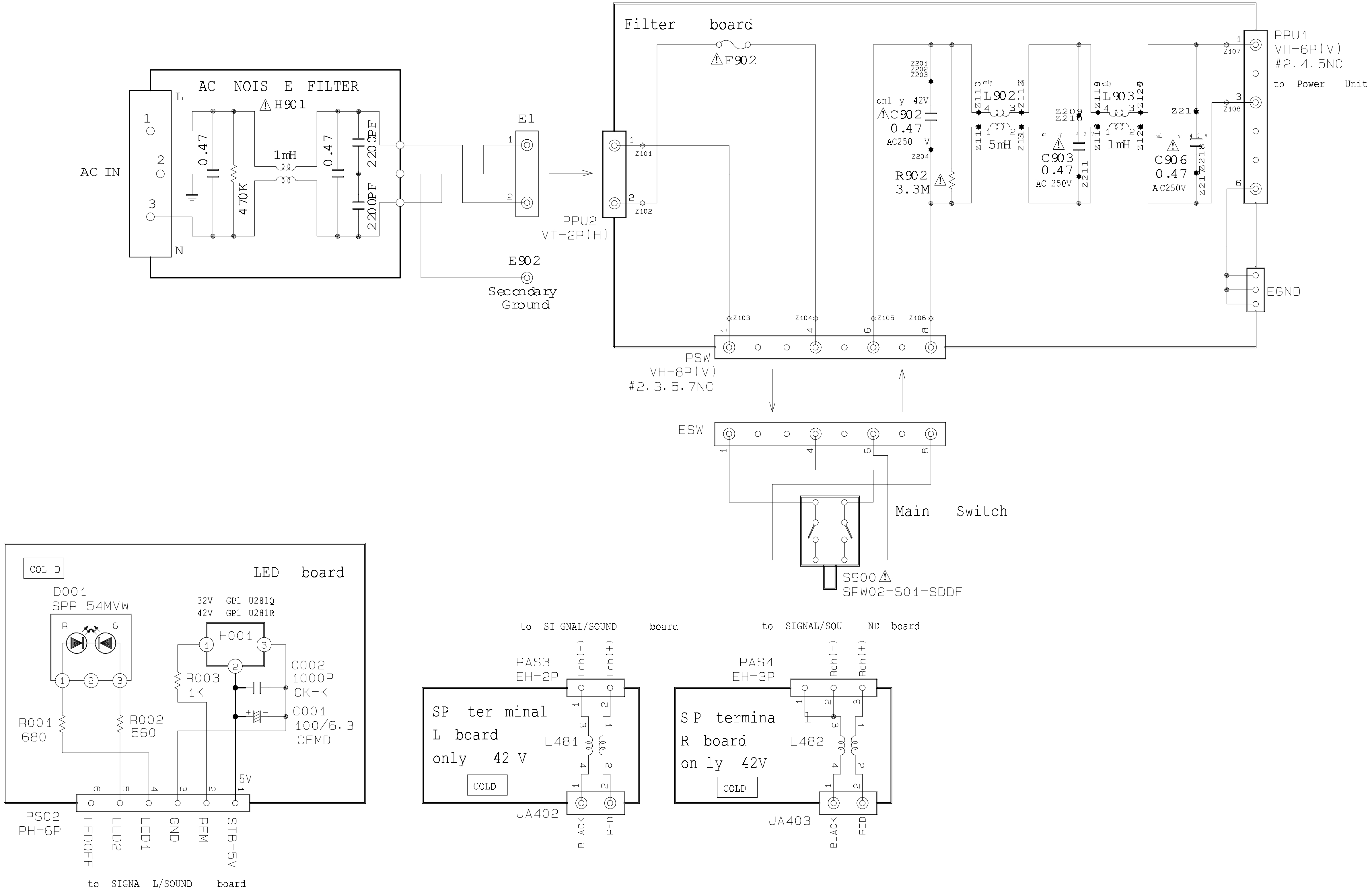
HITACHI


toSIGNAL/SOUNDboard2toSIGNAL/SOUNDboard1toSIGNAL/SOUNDboard1,3
toSIGNAL/SOUNDboard1,2
K480 jumper
K401 jumper
S_GND
R
L
MUTE
SPKLY
SCL1
SDA1
AUDRST
AUDDET
PW-ON
IC401 NJW1138
Volume Balance
ToneControl
Surround
IC402 NJM2192AM
TruBass
IC404 TA2020-020
Sound Output Amplifier Digital Power Amplifier
HEAT SINK
Detect Main Power OFF
Q406 DTC114EETL
D407 AM01Z
PDA1 ZH-12PIN
ROUT
RIN
GND
LOUT
LIN
GND
SDA
SCL
GND
AUDRST
AUDDET
+12V
PPA EH-4PIN
Sound 12V
Sound 12V
Sound GND
Sound GND
to Power Unit
PAS1 EH-2PIN
LCH-OUT
LCH+OUT
SpeakerL L
PAS2 EH-3PIN
RCH-OUT
RCH+OUT
SpeakerR R
only42"
only32"
DC COM. CHOKE 7uH
SoundMute
MuteOn:(B)1.2V
Q405 DTC323TK
Q404 DTC323TK
SubwooferOutput Output
J401
(earth)
Q402 2SC4617TLR
Q401 2SC4617TLR
Q408 DTC114EETL
Q403 DTC114EETL
Q407 DTC323TK
STBY5V
LED_OFF
toSIGNAL/SOUNDboard1
IC403 BU4052BCF
TruBassSwitch
A B SW TruBass
L L X0 Y0 OFF
H L X1 Y1 LOW
L H X2 Y2 MIDDLE
H H X3 Y3 HIGH
PP003

SM003

Signal/Sound Board Sheet 4

HITACHI

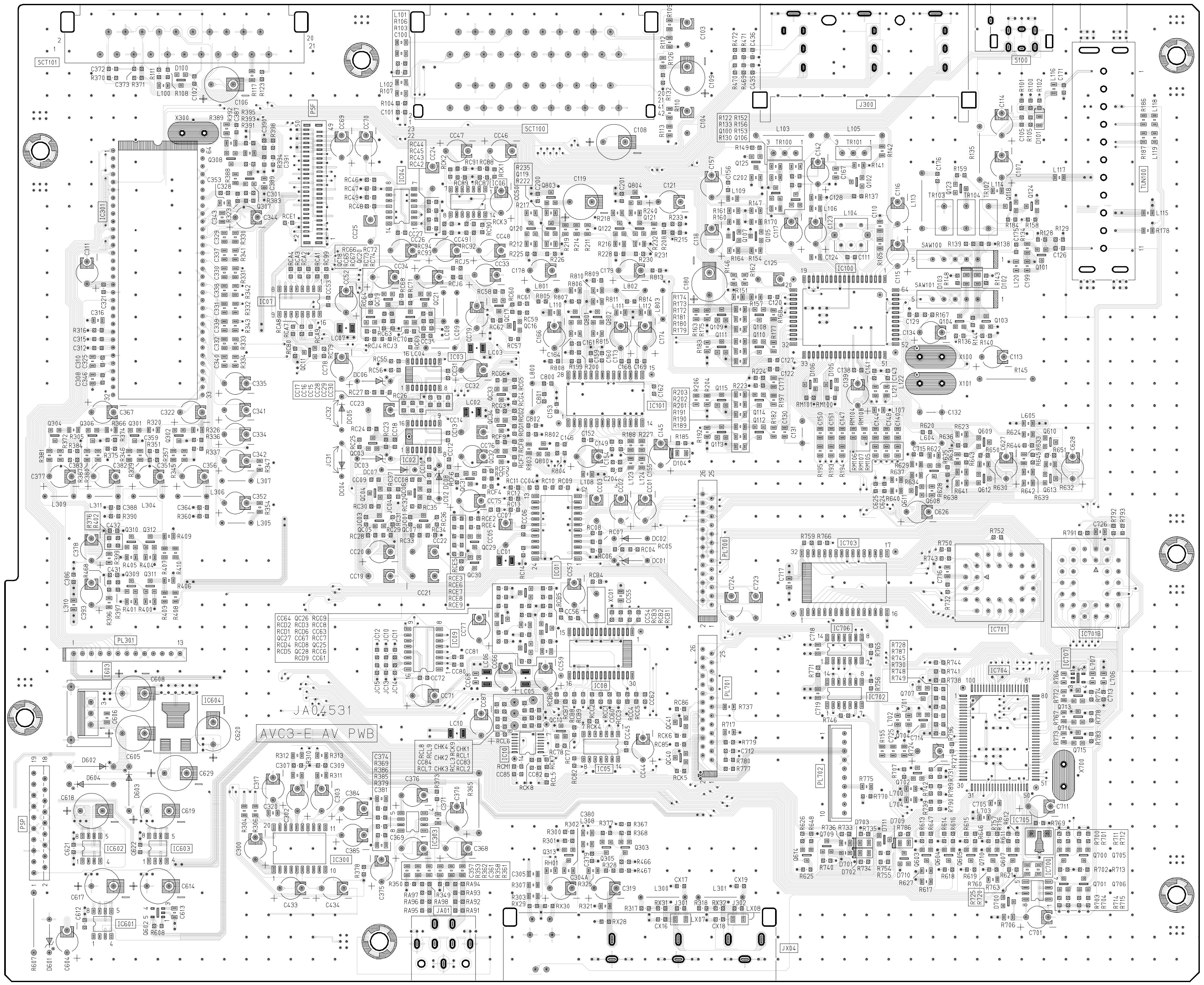

AC NOISE FILTER
⚠H901
AC IN
L
N
1
2
3
0.47
470K
1mH
0.47
2200PF
2200PF
E1
E902
Secondary Ground
Filter board
⚠F902
PPU2
VT-2P(H)
Z101
Z102
Z201 Z202 Z203
only 42V
⚠C902
0.47
AC250V
Z204
R902
3.3M
L902
5mH
Z110
Z111
Z112
Z113
Z209
Z210
C903
0.47
AC 250V
Z211
L903
1mH
Z118
Z119
Z120
Z121
Z216
C906
0.47
AC250V
Z217
Z218
PPU1
VH-6P(V)
#2.4.5NC
to Power Unit
Z107
Z108
EGND
Z103
Z104
Z105
Z106
PSW
VH-8P(V)
#2.3.5.7NC
ESW
Main Switch
S900⚠
SPW02-S01-SDDF
COLD
LED board
D001
SPR-54MVW
R
G
32V GP1 U281Q
42V GP1 U281R
H001
R003
1K
C002
1000P
CK-K
C001
100/6.3
CEMD
R001
680
R002
560
5V
PSC2
PH-6P
LEDOFF
LED2
LED1
GND
REM
STB+5V
to SIGNAL/SOUND board
to SIGNAL/SOUND board
PAS3
EH-2P
Lch(-)
Lch(+)
SP terminal L board only 42V
L481
COLD
JA402
BLACK
RED
to SIGNAL/SOUND board
PAS4
EH-3P
Rch(-)
Rch(+)
SP terminal R board only 42V
L482
COLD
JA403
BLACK
RED

SM003

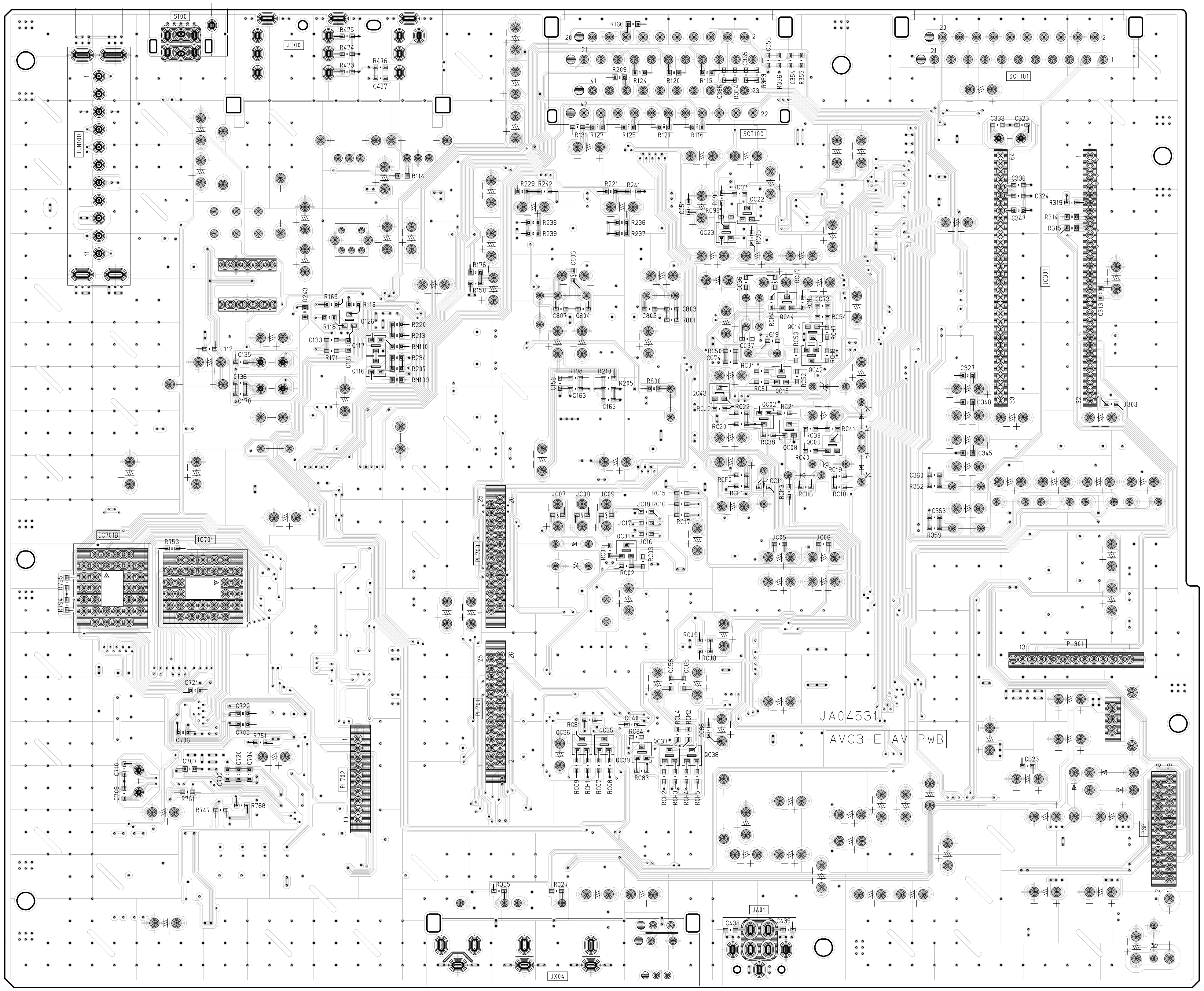
Monitor Switch, LED, Filter, SP Terminals

HITACHI

Circuit Boards


JA04531
AVC3-E AV PWB

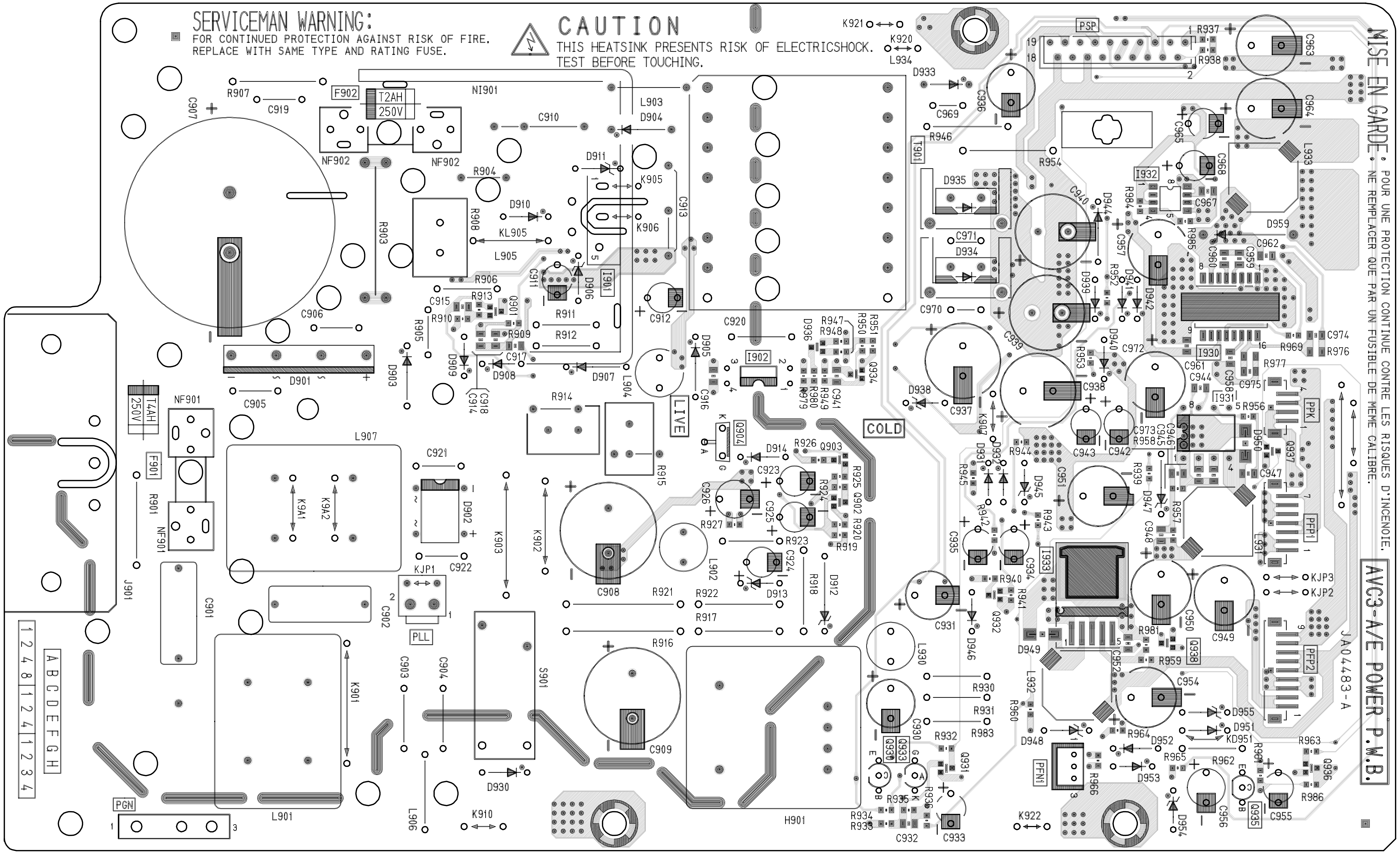
SM003	AV Board - Side A	HITACHI


S100
J300
R475
R474
R473
R476
C437
TUN100
R166
SCT100
SCT101
R131
R127
R125
R121
R116
R229
R242
R221
R241
R238
R239
R236
R237
C806
C803
R601
R176
R150
R169
R119
R118
Q126
Q117
Q116
C133
R171
C137
R220
R213
RM110
R234
R207
RM109
C112
C135
C136
C170
R198
R210
R205
R800
C163
C165
C158
IC301
C333
C323
C336
C324
C347
R319
R314
R315
C327
C348
C345
J303
C360
R352
C363
R359
PL700
PL701
PL702
IC701B
IC701
R753
C721
C722
C703
C706
R751
C707
C710
C709
C720
C704
C702
R761
R747
R768
JC05
JC06
JC07
JC08
JC09
QC01
RC02
PL301
JA04531
AVC3-E AV PWB
C623
PSP
R335
R327
JX04
JA01
C438
C439

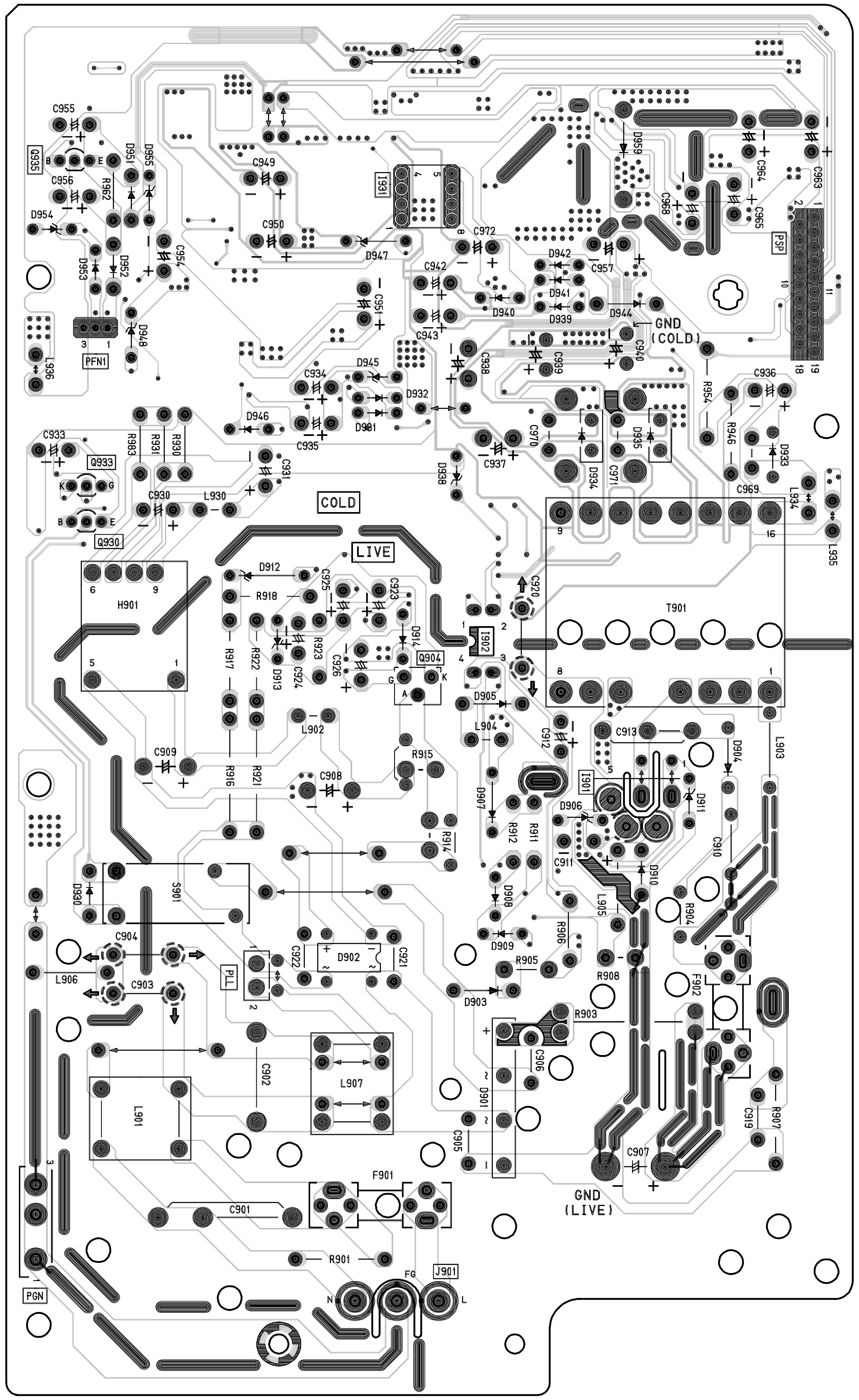
SM003

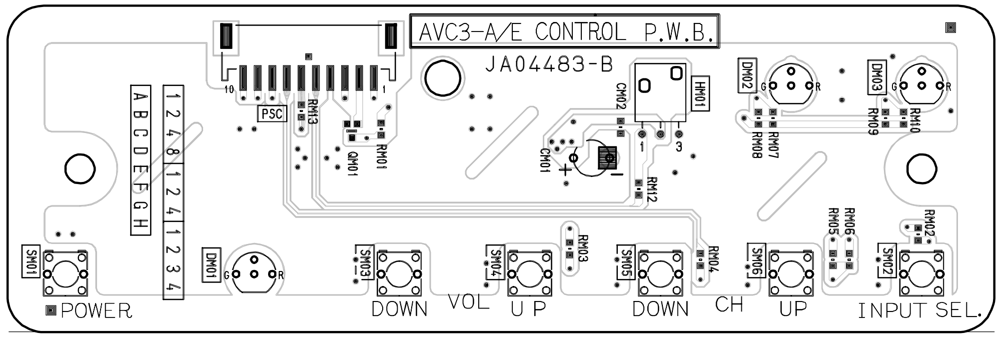
AV Board - Side B

AV Power Side A

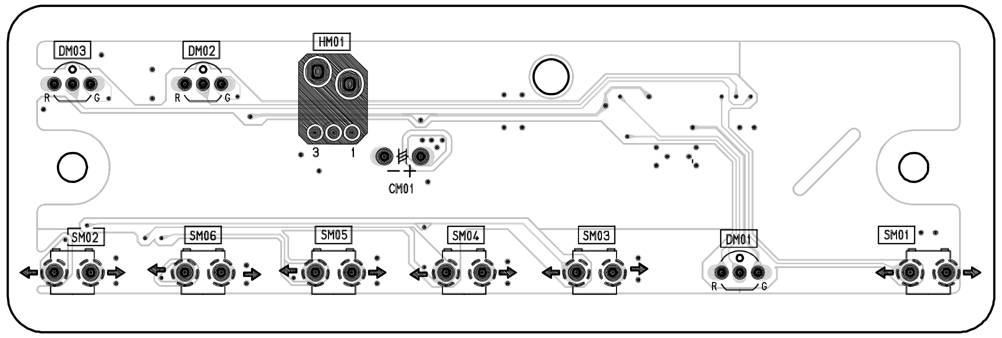

SERVICEMAN WARNING:
FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATING FUSE.
CAUTION
THIS HEATSINK PRESENTS RISK OF ELECTRICSHOCK.
TEST BEFORE TOUCHING.
MISE EN GARDE: POUR UNE PROTECTION CONTINUE CONTRE LES RISQUES D'INCENDIE, NE REMPLACER QUE PAR UN FUSIBLE DE MEME CALIBRE.
AVC3-A/E POWER P.W.B.
JA04483-A
F902
T2AH
250V
T4AH
250V
F901
NF901
NF902
NI901
LIVE
COLD
PSP
PPK
PFP1
PFP2
PFN1
PLL
PGN
KJP1
KJP2
KJP3
J901
T901
H901
L901
L907
S901
1 2 4 8 1 2 4 1 2 3 4
A B C D E F G H
SM003
Power Board - Side A
HITACHI

AV Power Side B


COLD
LIVE
GND
(COLD)
GND
(LIVE)
T901
H901
F901
J901
L901
L907
PSP
PFN1
PGN


AVC3-A/E CONTROL P.W.B.
JA04483-B
PSC
POWER
DOWN
VOL
U P
DOWN
CH
UP
INPUT SEL.

CONTROL BOARD - SIDE A

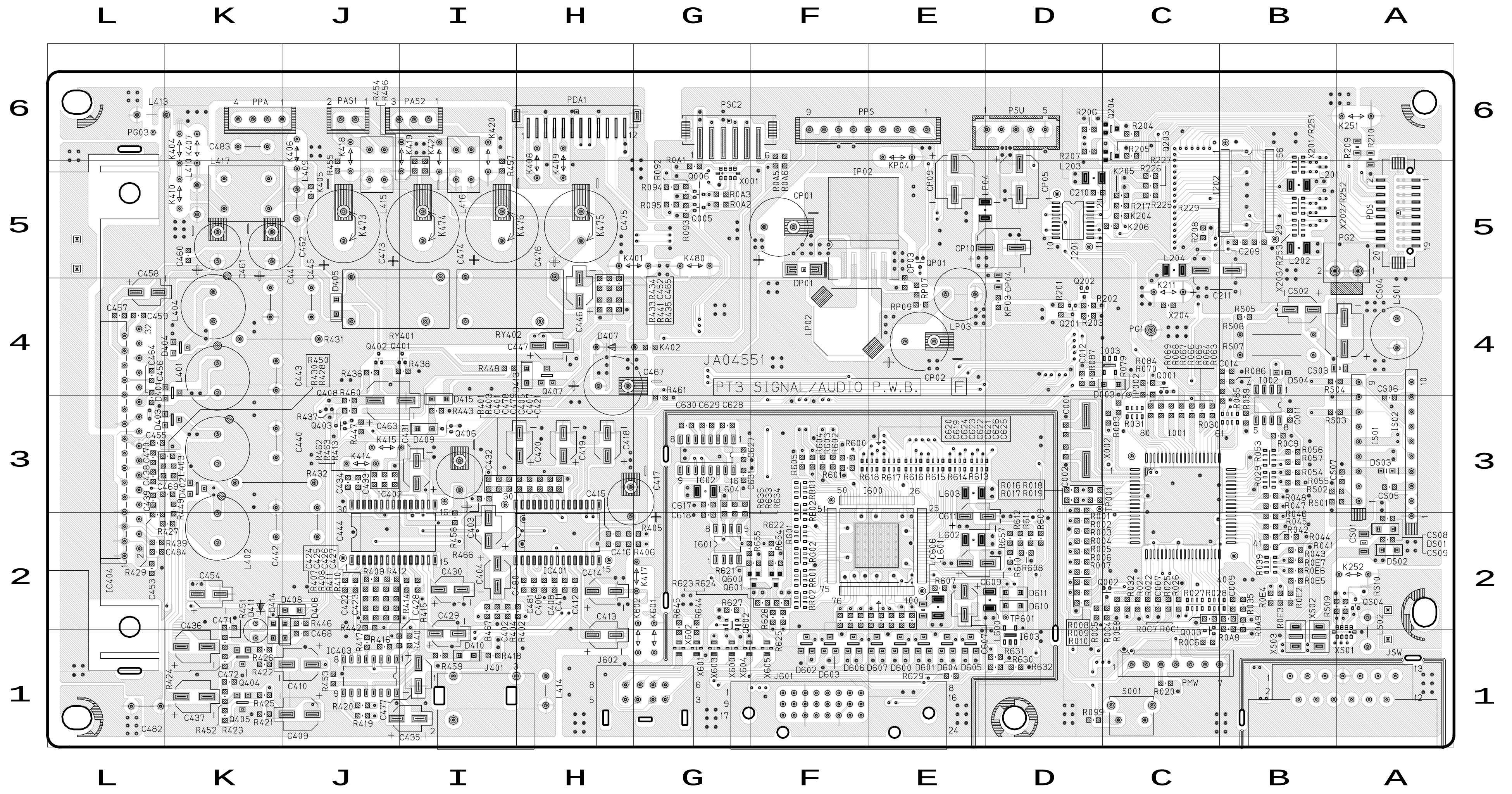

DM03
DM02
HM01
CM01
SM02
SM06
SM05
SM04
SM03
DM01
SM01

CONTROL BOARD - SIDE B

SM003	Power Board - Side B	HITACHI

Monitor block SIGNAL/SOUND board [side - A]

SIGNAL/SOUND board is 4 layered. The inner layer is not recorded.

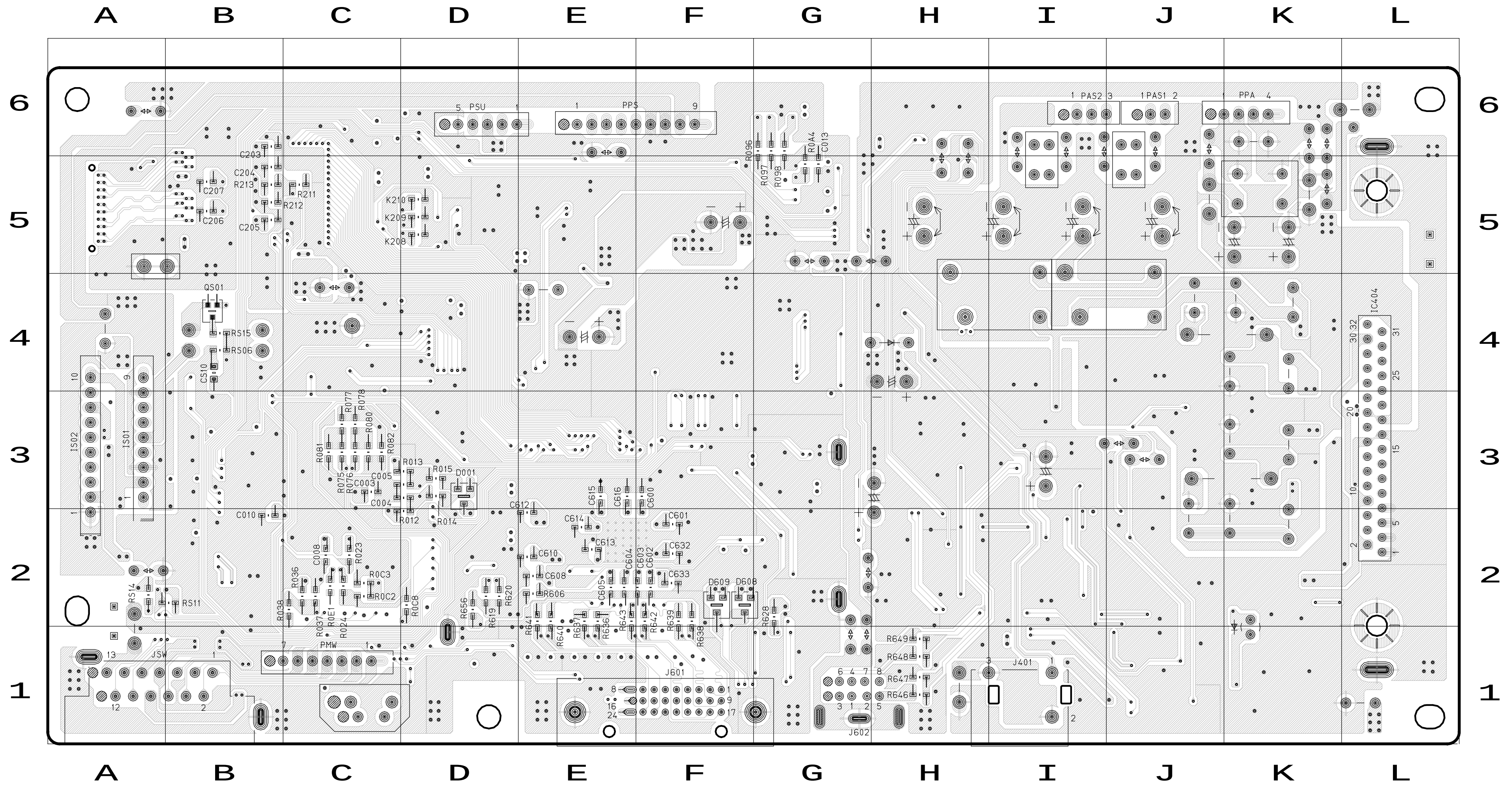

L K J I H G F E D C B A
6 5 4 3 2 1
JA04551
PT3 SIGNAL/AUDIO P.W.B.
PPA
PAS1
PAS2
PDA1
PSC2
PRS
PSU
PDS
PMW
JSW
IC401
IC402
IC403
IC404
I600
I601
I602
I603
I001
I002
IP02
LP02
LP03
LP04
CP01
CP02
DP01
J601
J602

Main chip component location search chart

Cir.No.	Position	Cir.No.	Position	Cir.No.	Position	Cir.No.	Position	Cir.No.	Position	Cir.No.	Position	Cir.No.	Position
D003	C4	D602	F1	I003	C4	L600	D2	Q201	D4	QP01	E5	X604	G1
D401	K4	D603	F1	I201	D5	L601	E2	Q202	D4	QS04	A2	X605	F1
D402	K3	D604	E1	I202	B5	L602	E2	Q203	C6	TP001	D3	XS01	A2
D403	K3	D605	E1	I600	E2	L603	E3	Q204	C6	TP002	C4	XS02	B1
D404	K4	D606	F1	I601	G2	L604	G3	Q401	I4	TP601	D2	XS03	B1
D405	J4	D607	E1	I602	G3	LP02	F4	Q402	J4	X001	G5		
D406	J2	D610	D2	I603	D1	LP04	E5	Q403	J3	X002	D3		
D408	J2	D611	D2	IC401	H2	PDA1	H6	Q404	K1	X201	B5		
D409	I3	DP01	F5	IC402	J2	PDS	A5	Q405	K1	X202	B5		
D410	I1	DS01	A2	IC403	J1	PSC2	G6	Q406	I3	X203	B5		
D413	H4	DS02	A2	IP02	F5	Q001	C4	Q407	H4	X204	C4		
D414	K2	DS03	A3	L201	B5	Q002	C2	Q408	J3	X600	G1		
D415	I3	DS04	B4	L202	B5	Q003	C2	Q600	F2	X601	G1		
D600	E1	I001	C3	L203	D5	Q005	G5	Q601	F2	X602	G1		
D601	E1	I002	B3	L204	C5	Q006	G5	Q602	G2	X603	G1		

Monitor block SIGNAL/SOUND board [side - B]

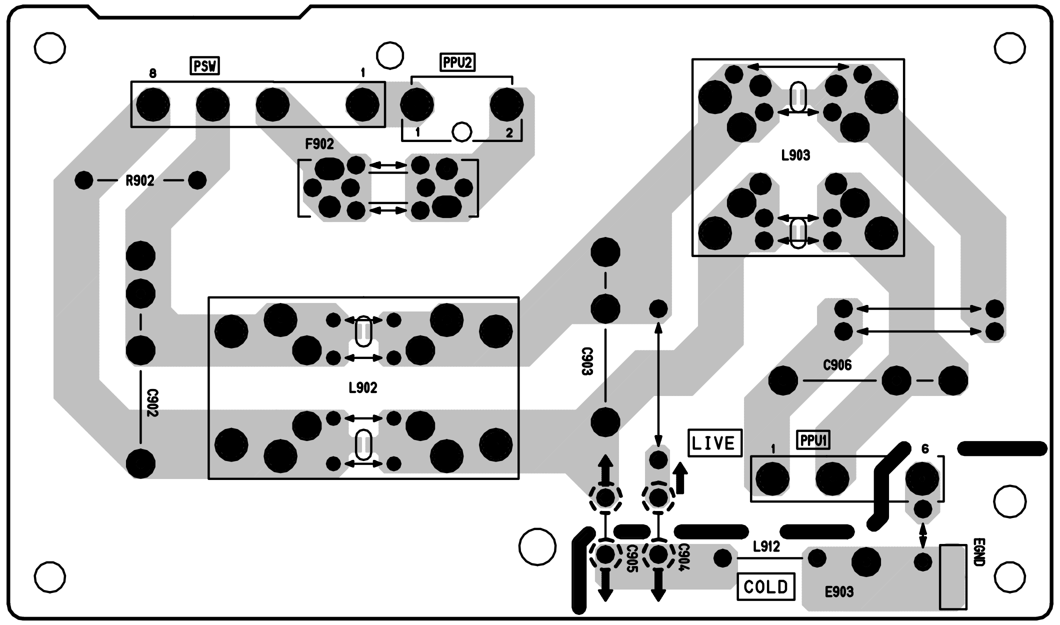
SIGNAL/SOUND board is 4 layered. The inner layer is not recorded.


A
B
C
D
E
F
G
H
I
J
K
L
1
2
3
4
5
6
PSU
PPS
PAS2
PAS1
PPA
IC404
IS02
IS01
QS01
RS15
RS06
PMW
JSW
J601
J602
J401
D001
D608
D609
C203
C204
R213
C207
C206
C205
R211
R212
K210
K209
K208
R096
R097
R098
R0A4
C013
R077
R078
R080
R081
R082
R075
R076
C003
C005
C004
R013
R015
R012
R014
C010
C008
R036
R023
R0C3
R0C2
R038
R037
R0E1
R024
R656
R620
R606
C612
C614
C615
C616
C600
C601
C613
C610
C608
C632
C633
C605
C604
C603
C602
R641
R640
R643
R642
R639
R649
R648
R647
R646
RS14
RS11

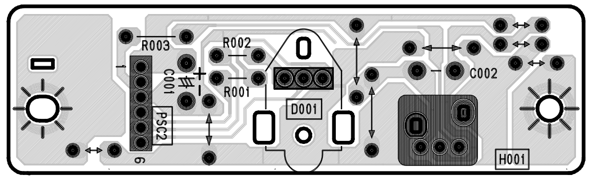
Main chip component location search chart

Cir.No.	Position
D001	D3
D608	F2
D609	F2
QS01	B4

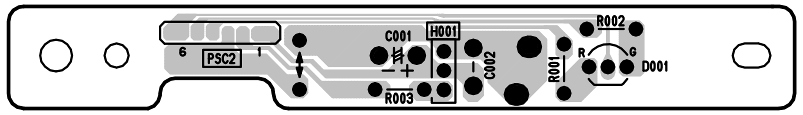
FILTER board


PSW
8
1
PPU2
1
2
F902
R902
L903
L902
C902
C903
C906
LIVE
PPU1
1
6
C905
C904
L912
COLD
E903
EGND

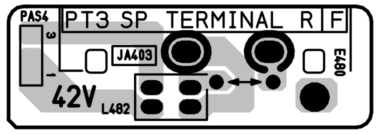
LED board for 32V


R003
R002
C001
R001
D001
PSC2
6
C002
H001

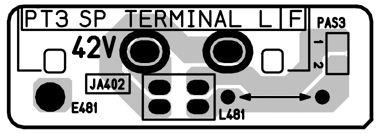
LED board for 42V


6
PSC2
1
C001
H001
C002
R002
R001
R
G
D001
R003

SPEAKER TERMINAL (R) bord (only 42V)


PAS4
3
1
PT3 SP TERMINAL R F
JA403
E480
42V
L482

SPEAKER TERMINAL (L) bord (only 42V)


PT3 SP TERMINAL L F
PAS3
1
2
42V
JA402
E481
L481

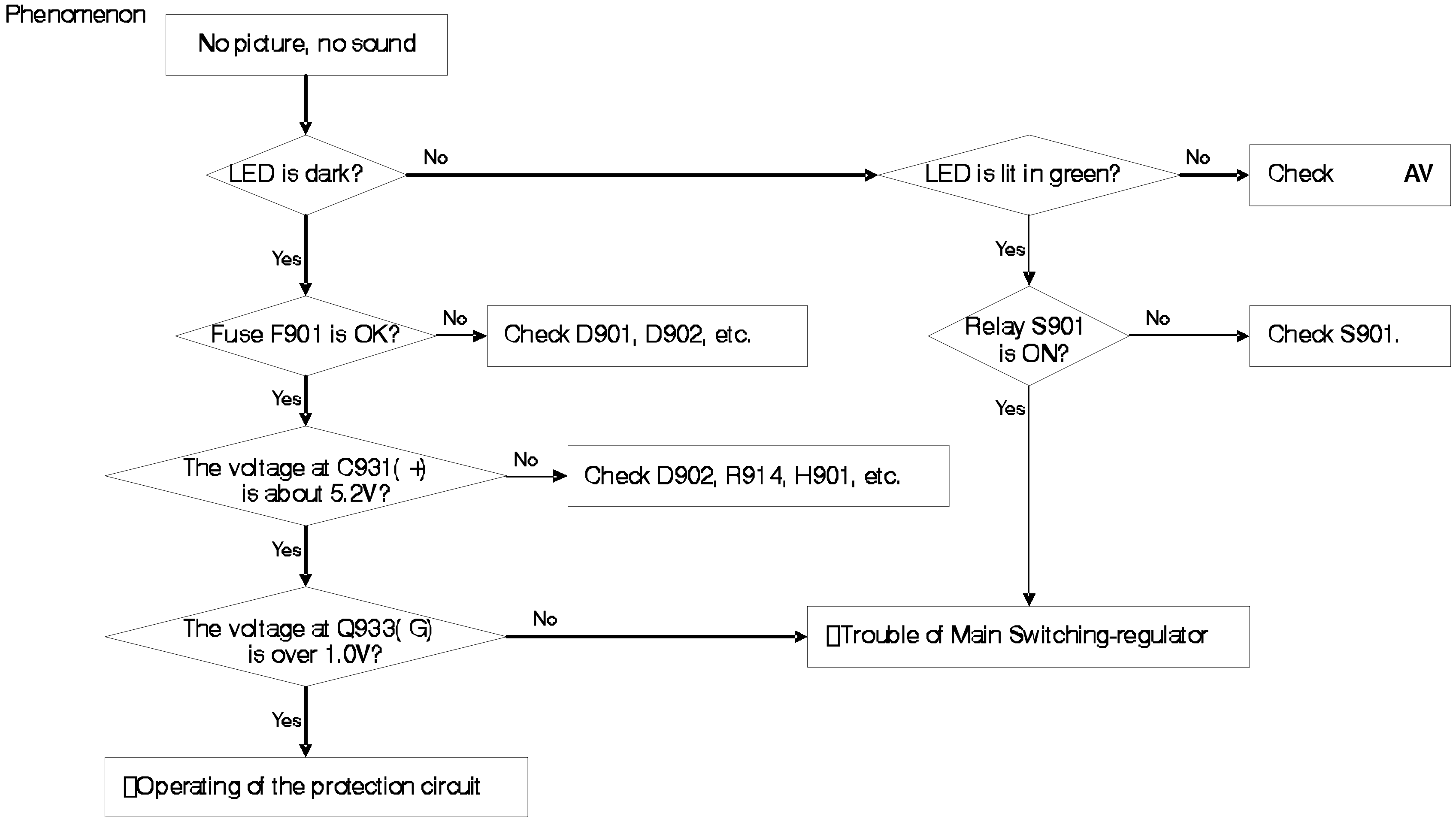
Troubleshooting Flow Charts

AV Power -1

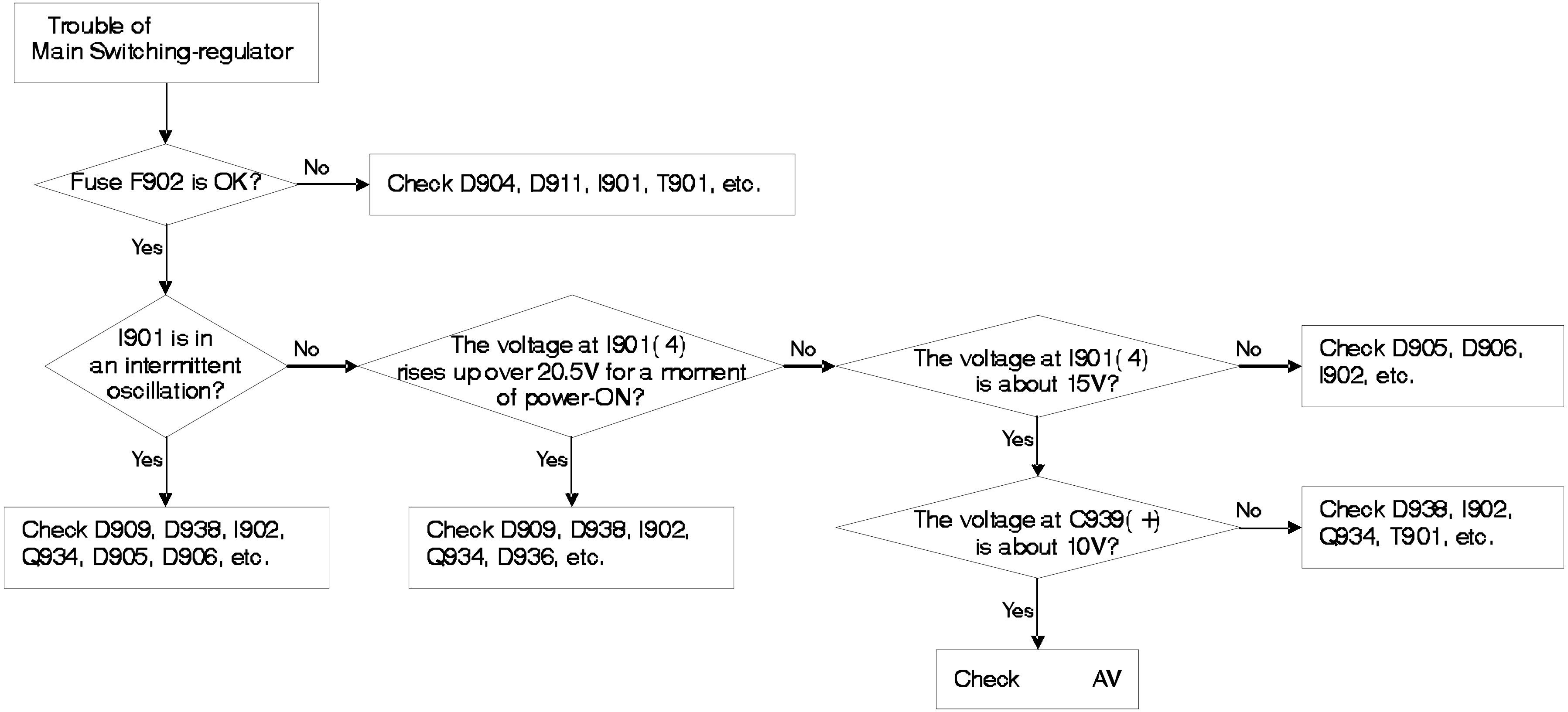
Trouble Shooting

AVC Power Supply Circuit

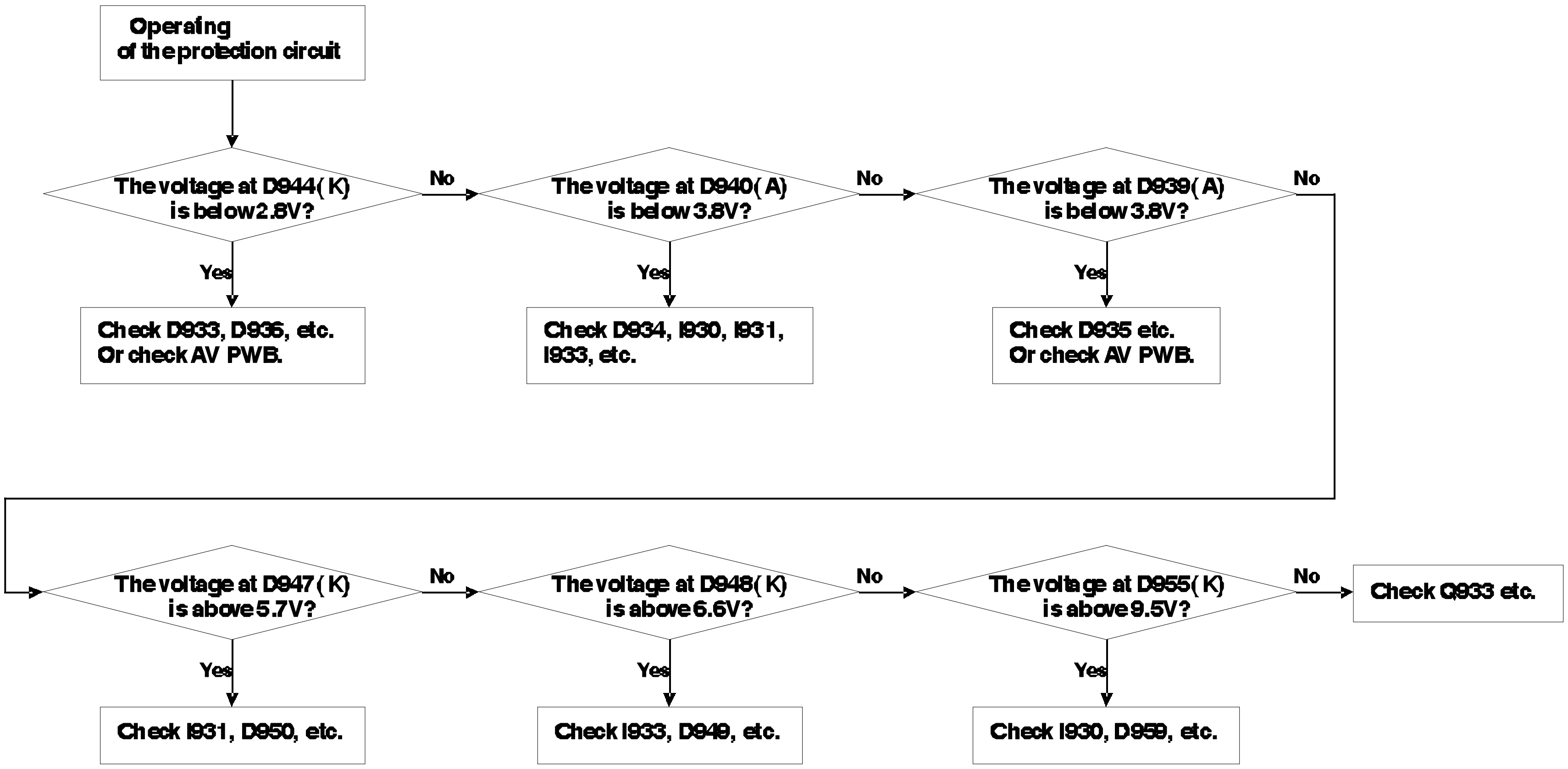
Caution!
It should be always confirmed that C907(CE220uF/450V) is discharged when touching POWER P.W.B. with fingers or soldering iron after power-off to prevent the electric shock and second damage.


Phenomenon
No picture, no sound
LED is dark?
No
LED is lit in green?
No
Check AV
Yes
Yes
Fuse F901 is OK?
No
Check D901, D902, etc.
Relay S901 is ON?
No
Check S901.
Yes
Yes
The voltage at C931(+) is about 5.2V?
No
Check D902, R914, H901, etc.
Yes
The voltage at Q933(G) is over 1.0V?
No
Trouble of Main Switching-regulator
Yes
Operating of the protection circuit

AV Power - 2

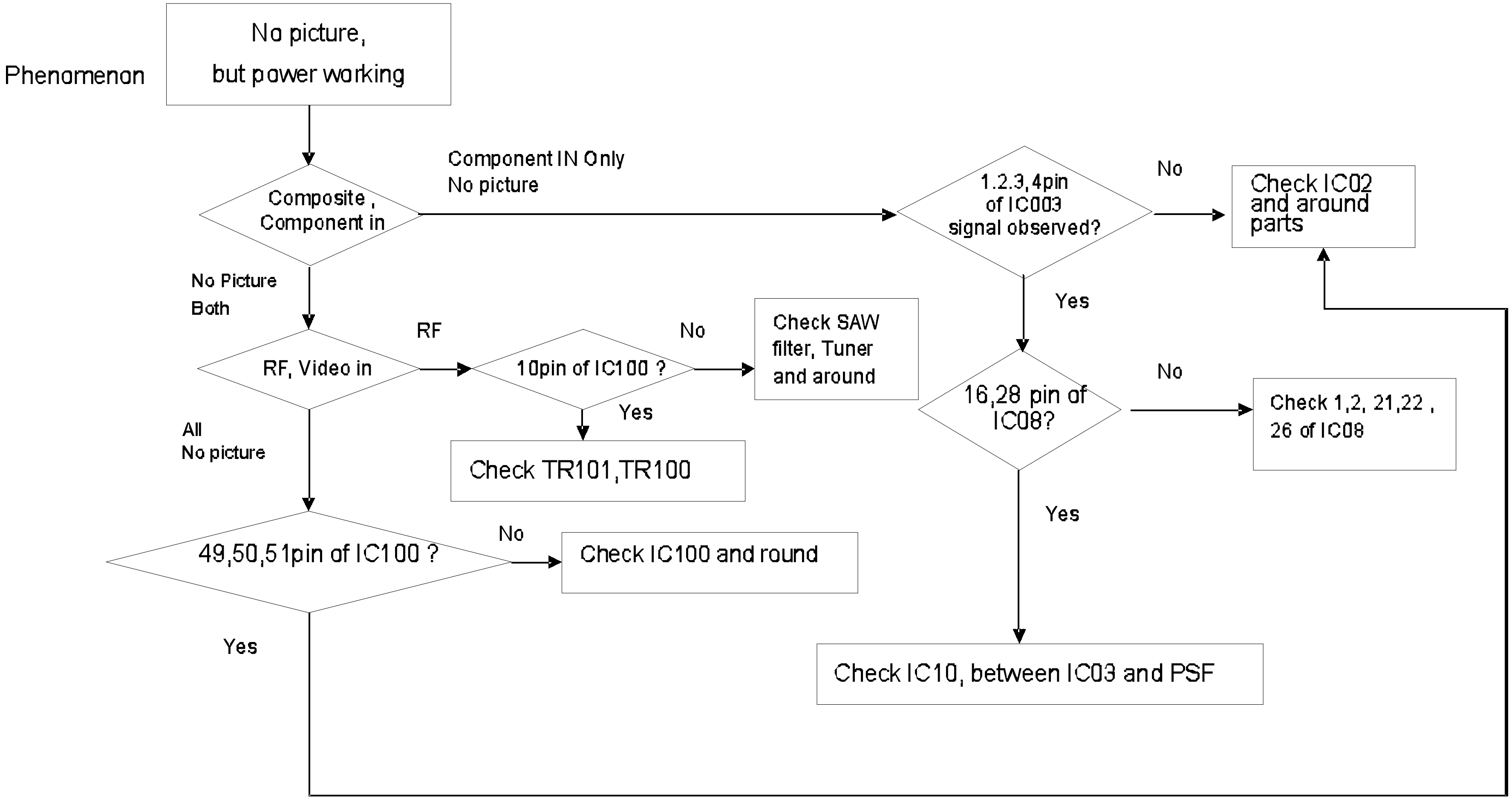

Trouble of Main Switching-regulator
Fuse F902 is OK?
No
Check D904, D911, I901, T901, etc.
Yes
I901 is in an intermittent oscillation?
No
The voltage at I901(4) rises up over 20.5V for a moment of power-ON?
No
The voltage at I901(4) is about 15V?
No
Check D905, D906, I902, etc.
Yes
Check D909, D938, I902, Q934, D905, D906, etc.
Yes
Check D909, D938, I902, Q934, D936, etc.
Yes
The voltage at C939(+) is about 10V?
No
Check D938, I902, Q934, T901, etc.
Yes
Check AV

AV Power - 3


Operating
of the protection circuit
The voltage at D944(K) is below 2.8V?
No
Yes
Check D933, D936, etc.
Or check AV PWB.
The voltage at D940(A) is below 3.8V?
No
Yes
Check D934, I930, I931, I933, etc.
The voltage at D939(A) is below 3.8V?
No
Yes
Check D935 etc.
Or check AV PWB.
The voltage at D947 (K) is above 5.7V?
No
Yes
Check I931, D950, etc.
The voltage at D948(K) is above 6.6V?
No
Yes
Check I933, D949, etc.
The voltage at D955(K) is above 9.5V?
No
Yes
Check I930, D959, etc.
Check Q933 etc.

Trouble Shooting

AVC AV Signal Circuit

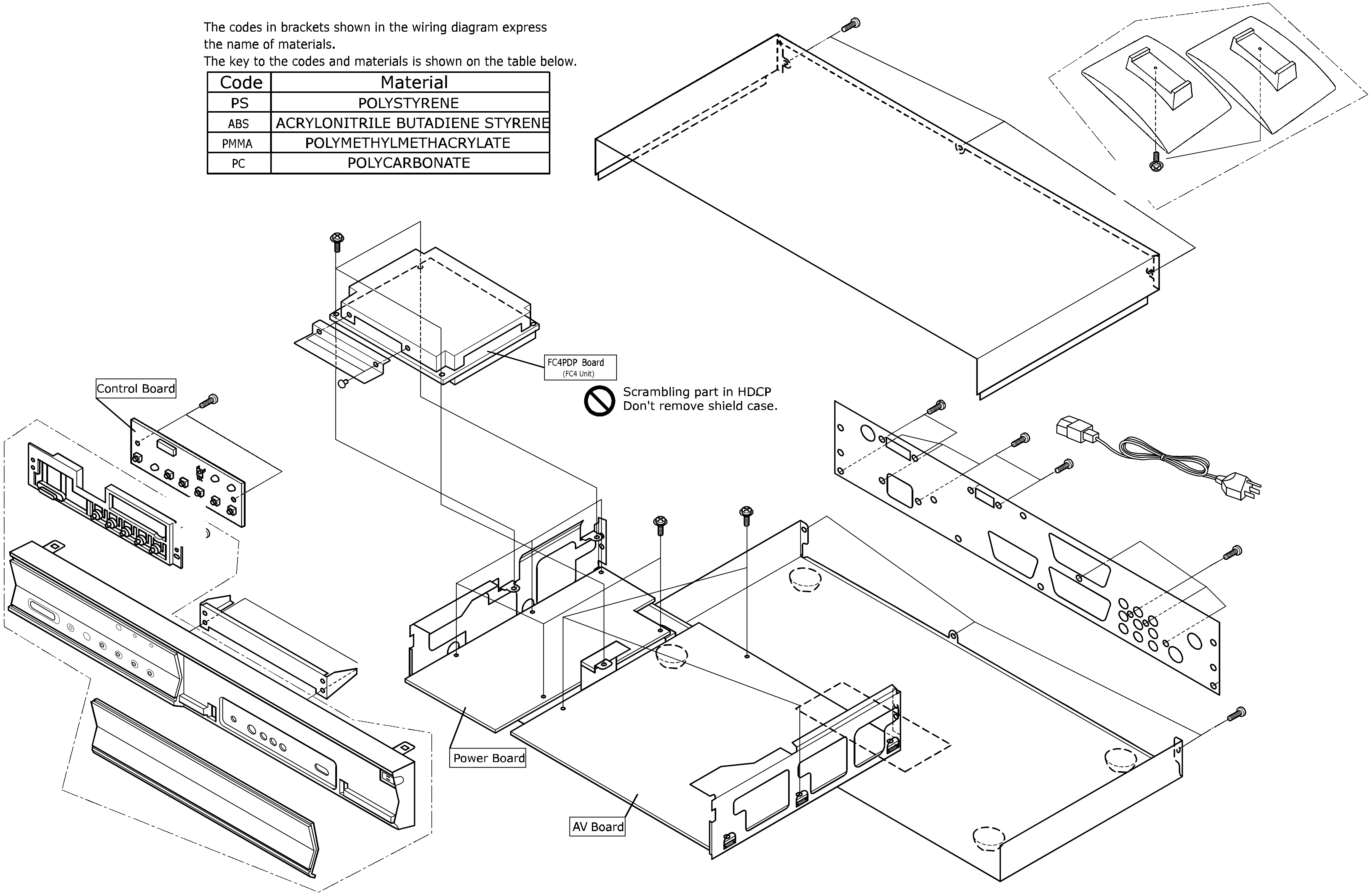

Phenomenon
No picture,
but power working
Composite ,
Component in
Component IN Only
No picture
1.2.3,4pin
of IC003
signal observed?
No
Check IC02
and around
parts
Yes
No Picture
Both
RF, Video in
RF
10pin of IC100 ?
No
Check SAW
filter, Tuner
and around
Yes
Check TR101,TR100
16,28 pin of
IC08?
No
Check 1,2, 21,22 ,
26 of IC08
Yes
All
No picture
49,50,51pin of IC100 ?
No
Check IC100 and round
Yes
Check IC10, between IC03 and PSF

Assembly Drawings

Audio / Video

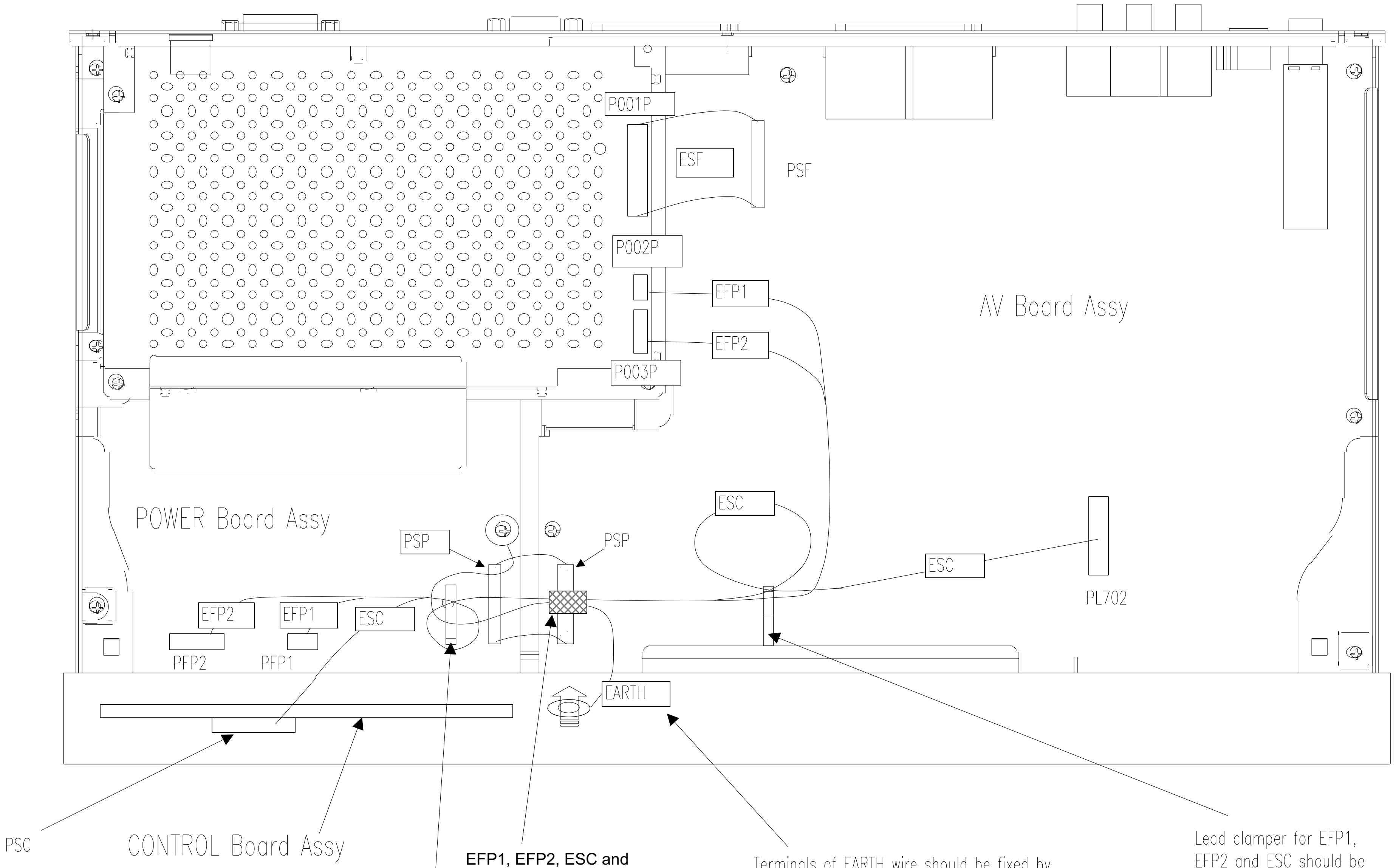
The codes in brackets shown in the wiring diagram express the name of materials.
The key to the codes and materials is shown on the table below.

Code	Material
PS	POLYSTYRENE
ABS	ACRYLONITRILE BUTADIENE STYRENE
PMMA	POLYMETHYLMETHACRYLATE
PC	POLYCARBONATE


FC4PDP Board
(FC4 Unit)
Scrambling part in HDCP
Don't remove shield case.
Control Board
Power Board
AV Board

SM003 | Disassembly Diagram | HITACHI

Wiring for Audio / Video Components


P001P
ESF
PSF
P002P
EFP1
EFP2
P003P
AV Board Assy
POWER Board Assy
ESC
PSP
PSP
ESC
PL702
EFP2
EFP1
ESC
PFP2
PFP1
EARTH
PSC
CONTROL Board Assy

Note:
Before fixing the CONTROL Board, PSC connector should be inserted into the Board

EFP1, EFP2, ESC and EARTH should never be bunched together with ZSC (Nittoh adhesive tape No.188 L=50mm)

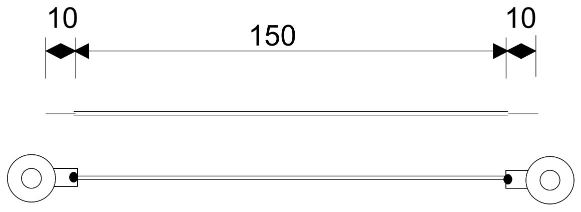
Lead clamper for EFP1, EFP2, ESC and EARTH should be locked after fixing EARTH and looped EFP1, EFP2 and ESC wires.

Terminals of EARTH wire should be fixed by two screws, one is for Power Board and the other is for front key.

Lead clamper for EFP1, EFP2 and ESC should be locked after fixing EFP1 and EFP2 and looped ESC wires.

Note:
Keep the loop down not to be pinched by top cover.

Preparation
EARTH wire should be wrapped and soldered with two 1P-terminals



Specification

1. This Drawing shows the wire dressing and connectors' connection of AVC3-E Final Assy.

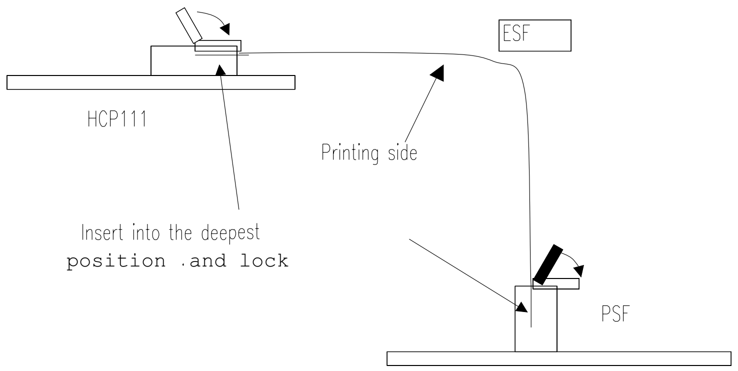
2. Connectors with wire should be inserted into Plug Pin Posts as shown on the table below

Connector with wire		Plug Pin 1		Plug Pin 2	
Name	Assy List	Board	Name	Board	Name
ESC	FINAL ASSY	Control Board	PSC	AV Board	PL702
EFP1	FINAL ASSY	Power Board	PFP1	HCP111	P002P
EFP2	FINAL ASSY	Power Board	PFP2	HCP111	P003P
ESF	FINAL ASSY	AV Board	PSF	HCP111	P001
PSP	Power Board Assy	AV Board	PSP	-	-

3. Into Plug Pin Post with Lock function, connector housing should be inserted deeply until it can be locked.

4. Into Plug Pin Post without Lock function, connector housing should be inserted most deeply.

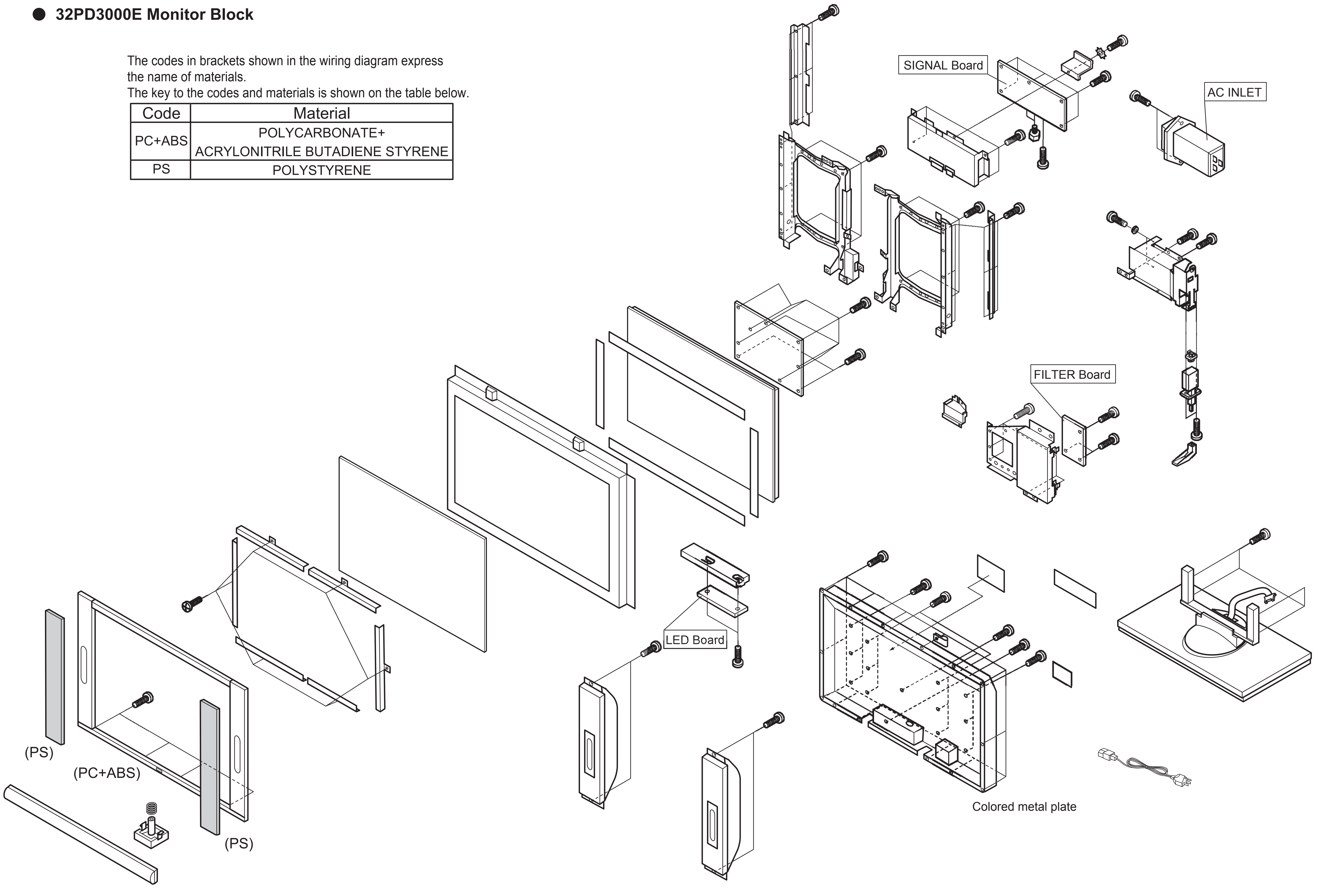
5. Flexible Flat Cable ESF should be fixed as shown on the drawing below


ESF
HCP111
Printing side
Insert into the deepest position ,and lock
PSF

● 32PD3000E Monitor Block

The codes in brackets shown in the wiring diagram express the name of materials.
The key to the codes and materials is shown on the table below.

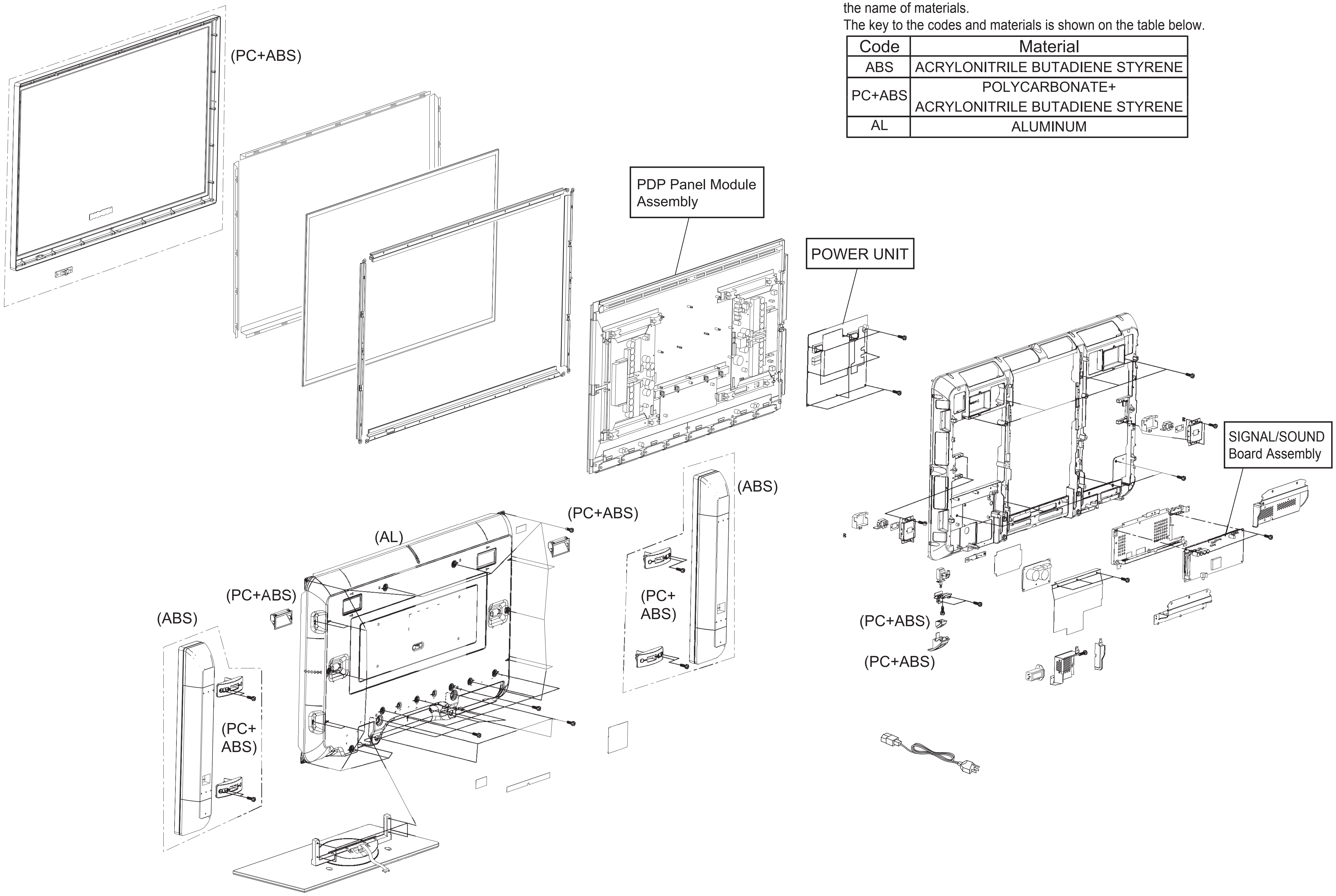
Code	Material
PC+ABS	POLYCARBONATE+ ACRYLONITRILE BUTADIENE STYRENE
PS	POLYSTYRENE


SIGNAL Board
AC INLET
FILTER Board
LED Board
(PS)
(PC+ABS)
(PS)
Colored metal plate

● 42PD3000E Monitor Block

The codes in brackets shown in the wiring diagram express the name of materials.
The key to the codes and materials is shown on the table below.

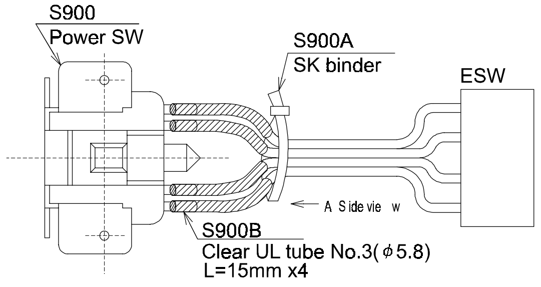
Code	Material
ABS	ACRYLONITRILE BUTADIENE STYRENE
PC+ABS	POLYCARBONATE+ ACRYLONITRILE BUTADIENE STYRENE
AL	ALUMINUM


(PC+ABS)
PDP Panel Module Assembly
POWER UNIT
SIGNAL/SOUND Board Assembly
(ABS)
(PC+ABS)
(AL)
(PC+ABS)
(ABS)
(PC+ ABS)
(PC+ ABS)
(PC+ABS)
(PC+ABS)

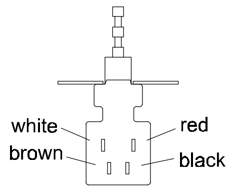
32 inch Monitor Wiring A

Preparative work

1.S900 should be assembled after preparation as below.


S900
Power SW
S900A
SK binder
ESW
A Side view
S900B
Clear UL tube No.3(φ5.8)
L=15mm x4

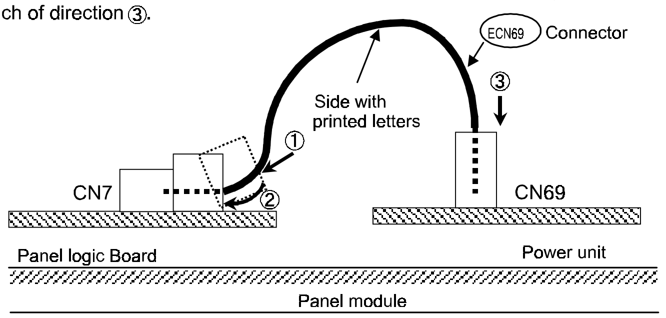
A Side view

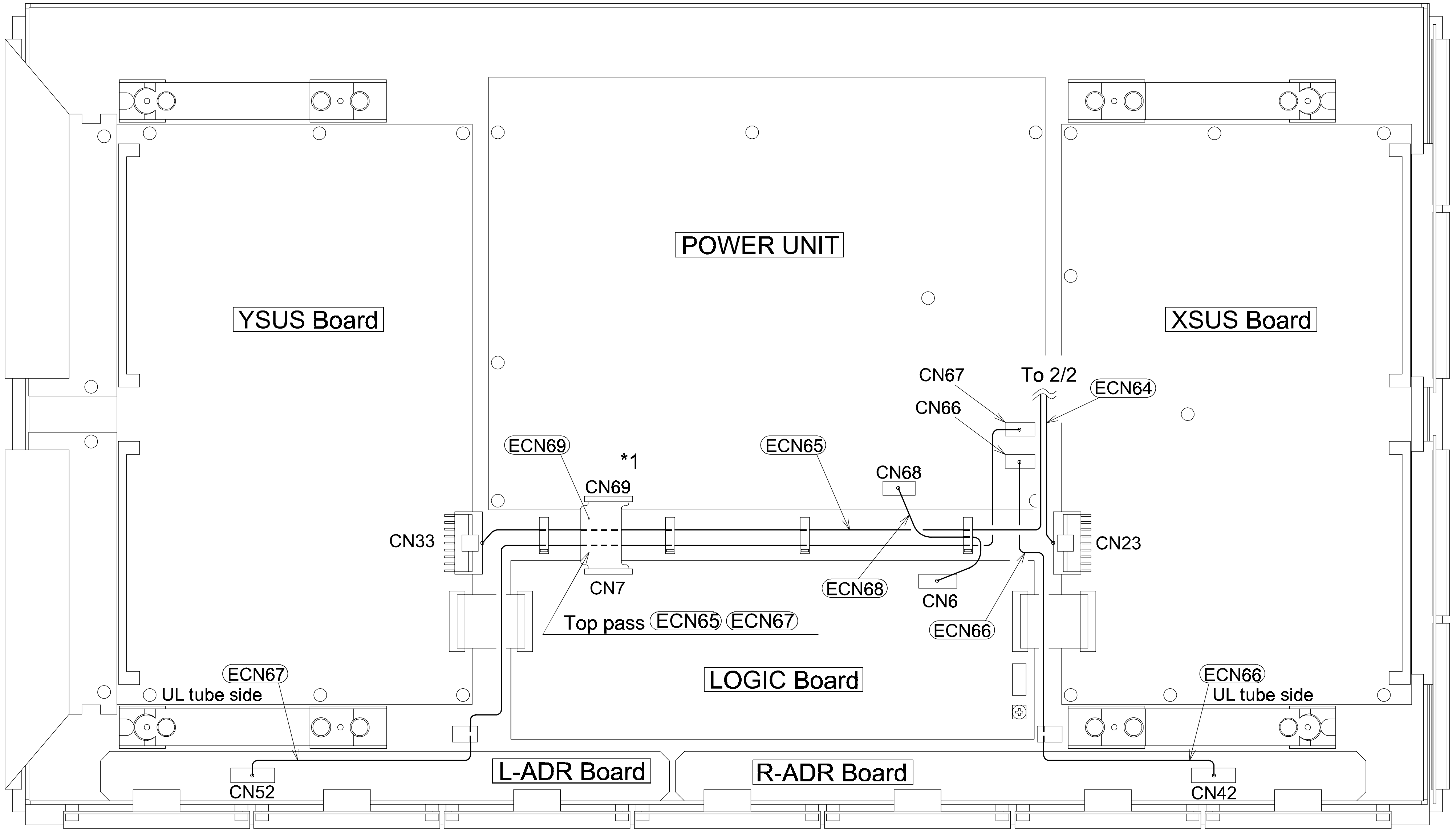

white
brown
red
black

(1) This drawing shows from topside of power switch.
(2) The marked as ● means twist and soldered.
(3) UL clear tube should inset to end of terminals of power switch and SK binder should fix end of tube.

Specification of part *1

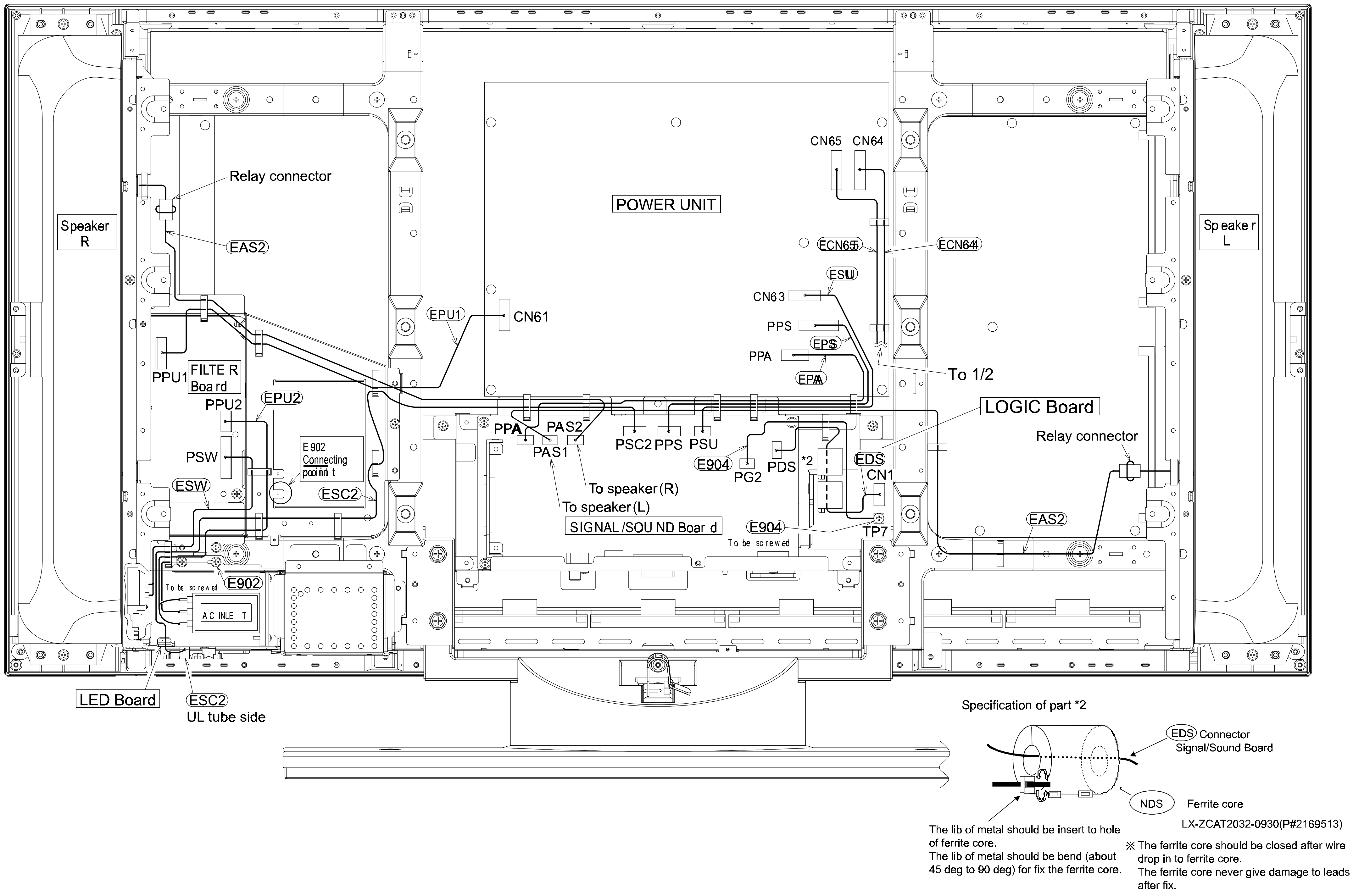
Printing part of ECN69 connector should be set to module side of panel.
(1) Release the lock of CN7 (position of dot line as figures), then ECN69 connector should be inset to CN7 until touch of direction ① as figures.
(2) Keep condition (1), lock of CN7 shift to direction 2 and fix.
(3) The other side; which is CN69 side of ECN69 should be completely insert until touch of direction ③.


ECN69 Connector
③
Side with
printed letters
①
CN7
②
CN69
Panel logic Board
Power unit
Panel module


POWER UNIT
YSUS Board
XSUS Board
CN67
To 2/2
ECN64
CN66
ECN69
*1
ECN65
CN68
CN69
CN33
CN23
CN7
ECN68
CN6
Top pass ECN65 ECN67
ECN66
LOGIC Board
ECN67
UL tube side
ECN66
UL tube side
L-ADR Board
R-ADR Board
CN52
CN42

SM003	32 PD Monitor Wiring Diagram Part 1	HITACHI

32 inch Monitor Wiring B

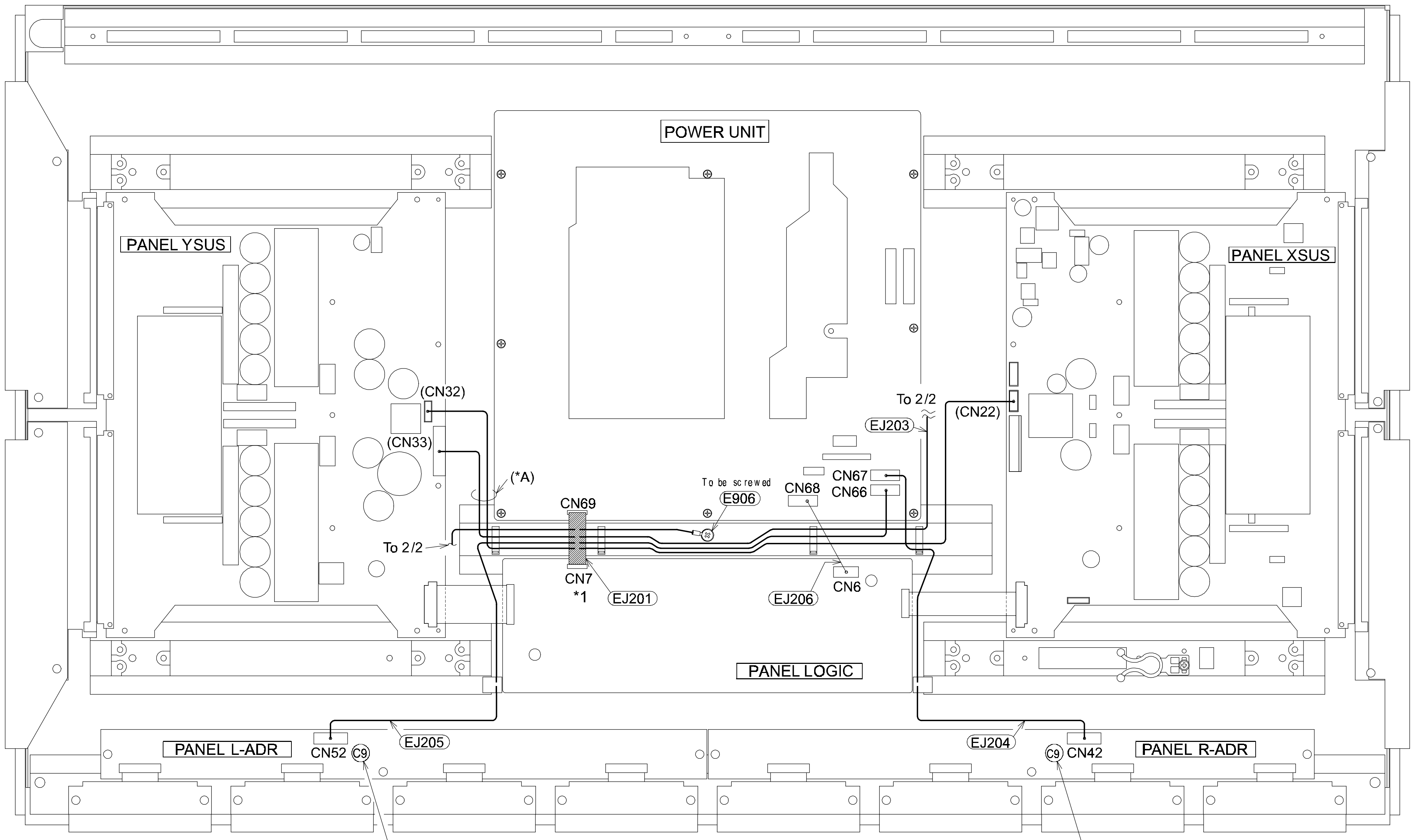

Relay connector
Speaker R
EAS2
POWER UNIT
CN65
CN64
ECN65
ECN64
ESU
CN63
PPS
EPS
PPA
EPA
To 1/2
EPU1
CN61
PPU1
FILTER Board
PPU2
EPU2
PSW
ESW
E902 Connecting point
ESC2
PPA
PAS2
PAS1
PSC2
PPS
PSU
E904
PG2
PDS
*2
EDS
CN1
To speaker(R)
To speaker(L)
SIGNAL/SOUND Board
E904
To be screwed
TP7
LOGIC Board
Relay connector
EAS2
Speaker L
To be screwed
E902
AC INLET
LED Board
ESC2
UL tube side
Specification of part *2
EDS Connector
Signal/Sound Board
NDS
Ferrite core
LX-ZCAT2032-0930(P#2169513)

The lib of metal should be insert to hole of ferrite core.
The lib of metal should be bend (about 45 deg to 90 deg) for fix the ferrite core.

※ The ferrite core should be closed after wire drop in to ferrite core.
The ferrite core never give damage to leads after fix.

SM003 | 32 PD Monitor Wiring Diagram Part 2 | HITACHI

42 inch Monitor Wiring A

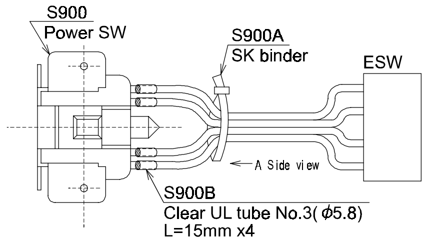

POWER UNIT
PANEL YSUS
PANEL XSUS
(CN32)
(CN33)
(*A)
To 2/2
EJ203
(CN22)
To be screwed
E906
CN69
CN68
CN67
CN66
To 2/2
CN7
*1
EJ201
EJ206
CN6
PANEL LOGIC
PANEL L-ADR
CN52
C9
EJ205
EJ204
C9
CN42
PANEL R-ADR

Leads of J205 should not be style on Electrical chemical capacitor (C9); which is located at L-ADR Board.

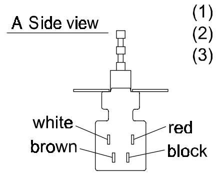
Leads of J204 should not be style on Electrical chemical capacitor (C9); which is located at R-ADR Board.

Preparative work

1.S900 should be assembled after preparation as below.


S900
Power SW
S900A
SK binder
ESW
A Side view
S900B
Clear UL tube No.3(ϕ5.8)
L=15mm x4

A Side view

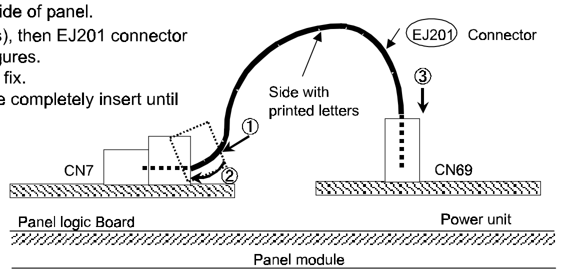

white
brown
red
block

(1) This drawing shows from topside of power switch.
(2) The marked as ▨ means twist and soldered.
(3) UL clear tube should inset to end of terminals of power switch and SK binder should fix end of tube.

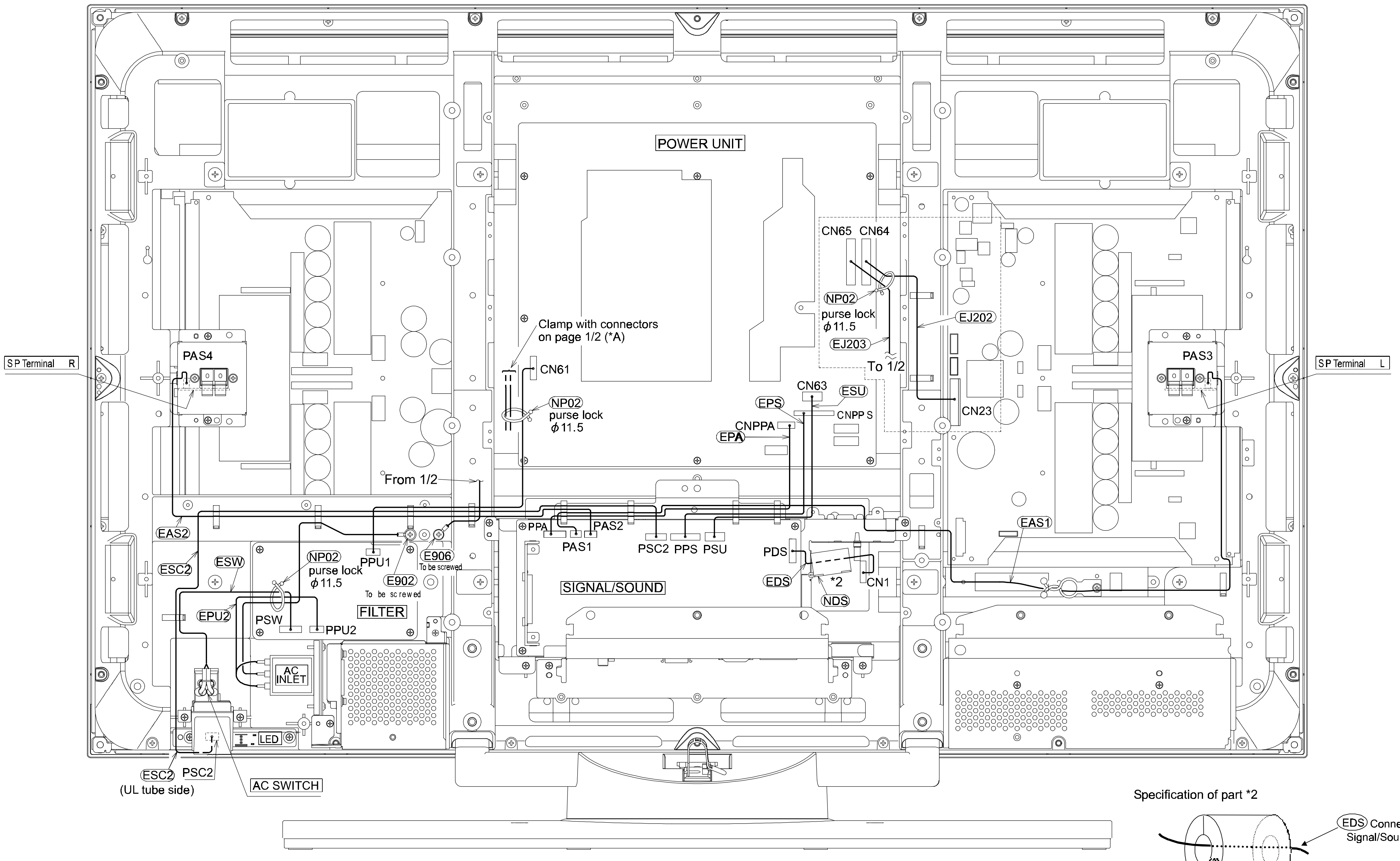
Specification of part *1

Printing part of EJ201 connector should be set to module side of panel.

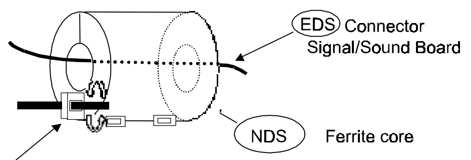
(1) Release the lock of CN7 (position of dot line as figures), then EJ201 connector should be inset to CN7 until touch of direction ① as figures.
(2) Keep condition (1), lock of CN7 shift to direction 2 and fix.
(3) The other side; which is CN69 side of EJ201 should be completely insert until touch of direction ③.


EJ201
Connector
Side with
printed letters
①
②
③
CN7
CN69
Panel logic Board
Power unit
Panel module

SM003	42PD3000 Wiring Diagram - 1	HITACHI


POWER UNIT
CN65 CN64
NP02
purse lock
ϕ11.5
EJ202
EJ203
To 1/2
Clamp with connectors
on page 1/2 (*A)
CN61
NP02
purse lock
ϕ11.5
CN63
ESU
EPS
CNPPS
CN23
CNPPA
EPA
SP Terminal R
PAS4
PAS3
SP Terminal L
From 1/2
EAS2
EAS1
PPA
PAS2
PAS1
PSC2
PPS
PSU
PDS
EDS
*2
CN1
NDS
SIGNAL/SOUND
ESC2
ESW
NP02
purse lock
ϕ11.5
PPU1
E906
To be screwed
E902
To be screwed
FILTER
EPU2
PSW
PPU2
AC INLET
LED
ESC2
PSC2
(UL tube side)
AC SWITCH

Specification of part *2


EDS Connector
Signal/Sound Board
NDS
Ferrite core
LX-ZCAT2032-0930(P#2169513)

The lib of metal should be insert to hole of ferrite core.
The lib of metal should be bend (about 45 deg to 90 deg) for fix the ferrite core.

※ The ferrite core should be closed after wire drop in to ferrite core.
The ferrite core never give damage to leads after fix.

SM003

42PD3000 Wiring Diagram - 2

HITACHI

24 way Digital Interface Cable Connection

AVC(FC4) P301P DV174320-4004			PDP
1	TX2-	→	TX2-
2	TX2+	→	TX2+
3	SHIELD	---	SHIELD
4	N.C.	---	N.C.
5	N.C.	---	N.C.
6	SCLH	→	SCLH
7	SDAH	→	SDAH
8	N.C.	---	N.C.
9	TX1-	→	TX1-
10	TX1+	→	TX1+
11	SHIELD	---	SHIELD
12	N.C.	---	N.C.
13	N.C.	---	N.C.
14	+5VAVDET	→	+5VAVDET
15	GND	---	GND
16	HPDET	→	HPDET
17	TXD-	→	TXD-
18	TXD+	→	TXD+
19	SHIELD	---	SHIELD
20	N.C.	---	N.C.
21	N.C.	---	N.C.
22	SHIELD	---	SUIELD
23	TXC+	→	TXC+
24	TXC-	→	TXC-

AVC(FC4) P302P TC57587-01-401			PDP
1	TXD	→	TXD
2	RXD	←	RXD
3	PARITY	→	PARITY
4	REMO-PDP	←	REMO-PDP
5	AUDIO L	→	AUDIO L
6	AUDIO R	→	AUDIO R
7	PDDET	←	PDDET
8	AVDET2	→	AVDET2

Microprocessor Pins

Pin No.		FUNCTION	INVERTED (I) OR BUFFERED (B) FUNCTION	IN/OUT				
Port 0								
9	0.0	POWER-ON		IN	Power key input	on	stand-by	power save
10	0.1	POWER1		OUT	Power control 1	H(1.5V)	L	H(1.2V)
11	0.2	POWER2		OUT	Power control 2	H(1.0V)	L	L
12	0.3		(I) POWER-LED 5V	OUT	Power LED control	H(1.5V)	H(1.5V)	H(1.5V)
13	0.4		(I) OSD-RESET	OUT	PC OSD reset			
14	0.5		(I) PM-RESET	OUT	PDP reset			
15	0.6	WC# EEPROM		OUT	EEPROM enable			
16	0.7	AV-LINK-OUT	(I) AV LINK	OUT	AV link output			
Port 1								
41	1.0	3WB-CLOCK	(I) 3WB-CLOCK 5V	OUT	3 wire bus clock			
42	1.1	FC-ENABLE	(I) FC-ENABLE 5V	OUT	FC enable			
43	1.2	MSC-ENABLE	(I) MSC-ENABLE 5V	OUT	MSC enable			
44	1.3		(I) OSD-EN	OUT	PC OSD enable			
45	1.4		(I) MSP-RESET	OUT	MSP3410 reset			
46	1.5	3WB-DATA	(B) 3WB-DATA+5V	IN/OUT	3 wire buses data			
47	1.6	SCL-3V3	(B) SCL+5V	OUT	I2C bus clock			
52	1.7	SDA-3V3	(B) SDA+5V	IN/OUT	I2C bus data			
Port 2								
24	2.0	ADC0	FROM SCART1 PIN 8	IN	Scart 101 (AV1) pin 8 detect			

25	2.1	ADC1	FROM TUNER AGC	IN	AGC level detect			
26	2.2	PDDET	FROM PDP	IN	PDP ON detect			
27	2.3	ADC3	FROM FRONT SWITCHES	IN	Vol+/- &Prog.+/- key input			
Port 3								
31	3.0	IF TRAP	ADJACENT CHANNELS	OUT	Not used			
32	3.1	1900TX-3v3		OUT	PDP communication via RS232C			
33	3.2	SCI	FROM AVLINK	IN	AV link input			
34	3.3	IR1	IR FROM PDP	IN	IR input			
35	3.4	FRONT-SVHS-SOCKET		IN	S-VHS socket detect			
36	3.5	MAP1	A18 ON SRAM	OUT	SRAM mapping			
37	3.6	MAP2	A15/A18 SWITCH	OUT	SRAM mapping			
38	3.7	1900RX		IN	PDP communication via RS232C			
Port 4								
48	4.2	MEM RD#		OUT	SRAM output enable			
49	4.3	MEM WR#		OUT	SRAM write enable			

Connections to FC4

	PSF at AVC	**P001 at FC4**			
Pin No.	**PIN NAME**	**PIN NAME**	**IN/OUT**	**FUNCTIONS**	**NOTE**
1	GND	GND	I/O	I^2C bus DATA	
2	N.C.	N.C.	I/O	I^2C bus CLOCK	
3	GND	GND	-	GND	
4	DATA	DATA	I/O	3 wires DATA	5V CMOS
5	CLK	CLK	I	3 wires CLOCK	5V CMOS
6	GND	GND	-	GND	
7	FC-ENA	FC-ENA	I	FC micro enable	5V CMOS
8	MSC-ENA	OSD-CS	I	MSC micro enable	5V CMOS
9	DATA	OSD-DATA	I	3 wires DATA	5V CMOS
10	CLK	OSD-CLK	I	3 wires CLOCK	5V CMOS
11	GND	GND	-	GND	
12	N.C.	N.C.(2H)	O	2H sync for OSD	
13	N.C.	K_DET	I	Enable for OSD generator	
14	N.C.	N.C.(2V)	O	2V sync for OSD	
15	N.C.	KMASK	I	RESET for OSD generator	
16	GND	GND	-	GND	
17	RS232C-PDP(TxD)	32C-PDP (TXD)	I	RS232C-TxD	5V CMOS
18	RS232C-PDP(RxD)	32C-PDP (RXD)	O	RS232C-RxD	5V CMOS
19	GND	GND	-	GND	
20	+5VSTB	AVDET	I	PDP control	
21	N.C.	N.C.	I	MATRIX control	
22	Remo-PDP	Remo-PDP	O	R/C command from PDP	5V CMOS
23	GND	N.C.	-	GND	
24	PM RST	PM RST	I	PDP control	5V CMOS
25	PD DET	PD DET	O	PDP control	5V CMOS
26	GND	GND	-	GND	
27	MY	MY	I	Video Y	1.4V±0.06Vp-p
28	MCb	MCb	I	Video Cb	0.7v±0.03Vp-p
29	MCr	MCr	I	Video Cr	0.7v±0.03Vp-p

30	GND	GND	-	GND	
31	MH	MH	I	Main H sync	5V CMOS
32	MV	MV	I	Main V sync	5V CMOS
33	GND	GND	-	GND	
34	SY	SY	I	Sub Y/G	1.4V±0.06Vp-p (Y) / 0.7Vpp±0.03Vpp (G)
35	SCb	SCb	I	Sub Cb/B	0.7v±0.03Vp-p
36	SCr	SCr	I	Sub Cr/R	0.7v±0.03Vp-p
37	GND	GND	-	GND	
38	SH	SH	I	Sub H sync	5V CMOS
39	SV	SV	I	Sub V sync	5V CMOS
40	GND	GND	-	GND	
41	GND	GND(OSD/TXT G)	I	GND	
42	GND	GND(OSD/TXT B)	I	GND	
43	GND	GND(OSD/TXT R)	I	GND	
44	GND	GND(OSD BLK/Ys)	I	GND	
45	GND	GND(OSD/Ym)	I	GND	
46	GND	GND	-	GND	
47	AUDIO L	AUDIO L	I	Audio L	typ 500mVrms
48	GND	GND	-	GND	
49	AUDIO R	AUDIO R	I	Audio R	typ 500mVrms
50	GND	GND	-	GND	
P002P			**at FC4**		
PIN NO.	**PIN NAME**		**IN/OUT**	**FUNCTIONS**	**NOTE**
1	FA+6.0V		I	6V power supply	460mA
2	FA+6.0V		I	6V power supply	
3	GND		-	GND	
4	GND		-	GND	
5	FSTB+5V		I	Stand-by +5V	50mA
6	FSTB+5V		I	Stand-by +5V	
7	GND		-	GND	

P003P			**at FC4**		
PIN NO.	**PIN NAME**		**IN/OUT**	**FUNCTIONS**	**NOTE**
1	D+1.8V		I	1.8V power supply	500mA
2	D+1.8V		I	1.8V power supply	
3	GND		-	GND	
4	GND		-	GND	
5	D+3.3V		I	3.3V power supply	350mA
6	D+3.3V		I	3.3V power supply	
7	D+3.3V		I	3.3V power supply	
8	GND		-	GND	
9	GND		-	GND	

PCB Connectors

AVC

ESC	2908877	FINAL ASSY	CO-10C-C2R0-431	Control Board	PSC	EA00069R	CPC10PH2R0HTPH-SM3	AV Board	PL702	EA00349R	CPC10PH2R0VTPH-SM3
EFP1	EF22161	FINAL ASSY	CO-07C-C1R5-391-ZH	Power Board	PFP1	EA01246R	CPC07BP1R5VT-SM3	FC4	P002P	EA01266R	CPC07BP1R5HT-SM3A
EFP2	EF22171	FINAL ASSY	CO-09C-C1R5-391-ZH	Power Board	PFP2	EA01248R	CPC09BP1R5VT-SM3	FC4	P003P	EA01268R	CPC09BP1R5HT-SM3A
ESF	EK01108	FINAL ASSY	PRW-SML2CD-50P-L700	AV Board	PSF	EA00932R	CPC50FP0R5VT-FH12	FC4	P001	EA01561R	CPC50FP0R5HT-FLZX
PSP	ED04153U	Power Board	CP-19BP1R2VU1.25FJN	AV Board	PSP	ED04163U	CP-19BS1R2VU1.25FJN	-	-	-	-

FC4

P001	EA01561R	CPC50FP0R5HT-FLZX	PSF	AV Board
P002P	EA01266R	CPC07BP1R5HT-SM3A	PFP1	Power Board
P003P	EA01268R	CPC09BP1R5HT-SM3A	PFP2	Power Board
P301P	EY01501	PJX-DVI(F)24P RA SOK		PDP Signal Audio Board
P302P	EY01491	PJX-YKF51-5376		PDP Signal Audio Board
P501P	EA01247R	CPC08BP1R5VT-SM3		For Alignment
P601P	EY01062	PJX-DSUB JACK		PC Input Terminal

AV Board

PSF	EA00932R	CPC50FP0R5VT-FH12	P001	FC4
PSP	ED04163U	CP-19BS1R2VU1.25FJN	PSP	PowerBoard
PL702	EA00349R	CPC10PH2R0VTPH-SM3	PSC	ControlBoard

Power Control Board

PFP1	EA01246R	CPC07BP1R5VT-SM3	P002P	FC4
PFP2	EA01248R	CPC09BP1R5VT-SM3	P003P	FC4
PSC	EA00069R	CPC10PH2R0HTPH-SM3	PL702	AV Board

THE UPDATED PARTS LIST

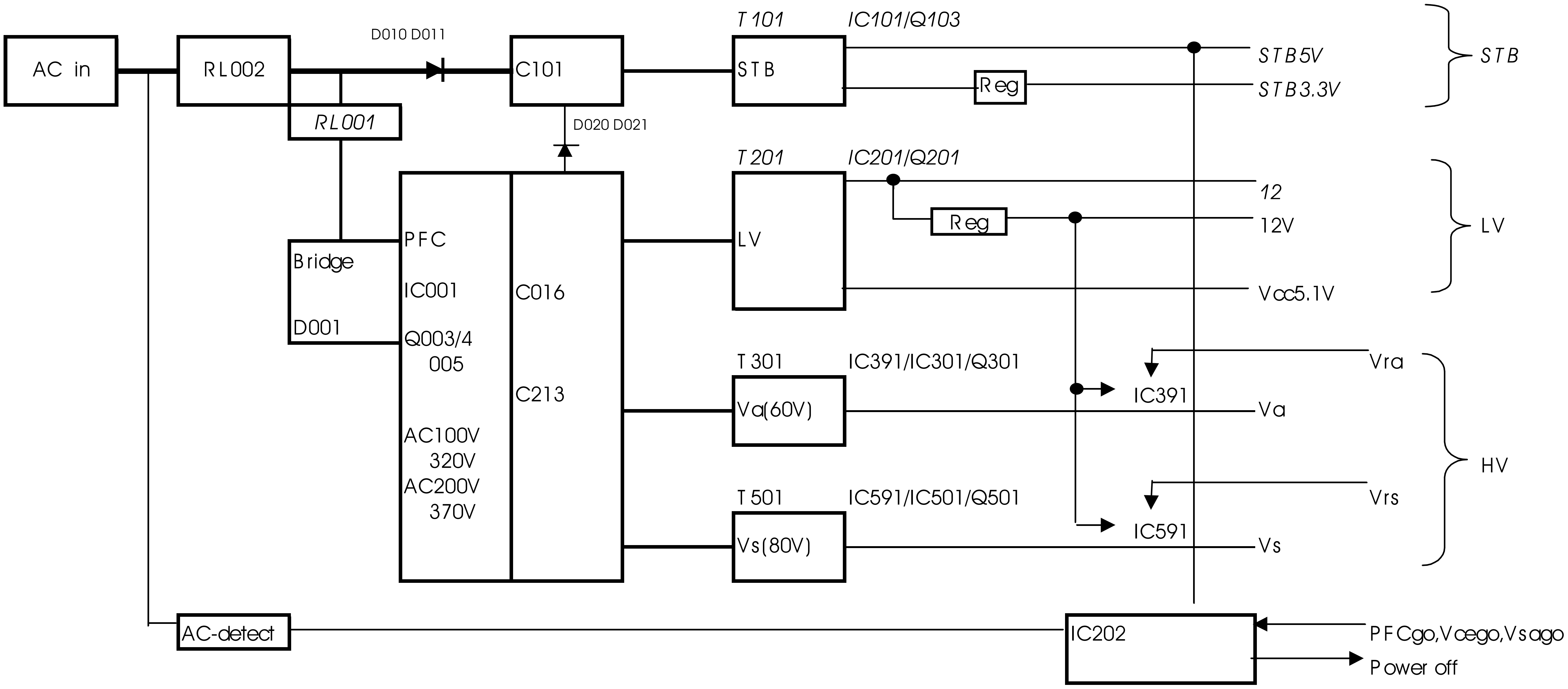
FOR THIS MODEL IS

AVAILABLE ON ESTA

No	ITEM	POTENTIAL PROBLEM/QUESTION	CAUSE and COUNTERMEASURE/ADVICE	NOTE
1	**CVBS & S.INPUT SOFTER**	CVBS and S-VHS input is softer than CL32PD2100 (with NR=off). When DVD signal input through AV1, Front by CVBS or S-VHS, picture is soft.	CAUSE ; DVD output signal includes noise equivalent to picture frequency. CL32PD2100 displays a picture more detail with NR=off than 32PD3000 but DVD noise is also emphasized especially seeing sky, you can see dot noise on CL32PD2100. 32PD3000 is filtered noise so you cannot see noise but a picture is also becoming softer. ADVICE; CVBS and S-input is not good for demonstration. Because almost all DVD has RGB, please use RGB for demo or YCbCr/YpbPr instead (new feature) RGB input of 32PD3000 is more crisp and less noise than CL32PD2100.	
2	**BLACK LEVEL BRIGHT** (Black level set- up)	CVBS and S-output from DVD player has set up voltage of black level around 0.1V. This causes black brighter and loose contrast. This was found with DVD player DV P305 with Spanish DVD disc. I have never found the same phenomenon in any other places so far. In HEL, I have checked DV P305 with UK DVD disc and confirmed OK (no set up voltage) In Italy, this was not found with DVD player DV P250 with Italy DVD disc. CVBS and S-input from DVD	The set up black level is not expected on PAL signal. So something wrong probably when DVD disc is copied in Spanish DVD software company. Or Some DVD player may have potential cause of this problem. But it is recommended that the demonstration should be done by RGB or component input to avoid this phenomenon. Almost all DVD players have RGB output.	This is observed only in Spain. This is caused by DVD player option. DV P305 has menu option to switch SET UP > DISPLAY OPTION > BLACK LEVEL = On/Off. When it is set to On, the signal on left hand drawing is output from DVD.
3	**LTI EFFECT** Luminance Transient Improvement	**PICTURE > MORE > LTI** LTI effect is not significant in CVBS and S-INPUT but very significant on RGB and component input.	CL32PD2100 has LTI but it is so strong that noise is also emphasised very much. On 32PD3000, this is improved to effect clear signal avoiding noise enhancement.	
4	**NOISE REDUCTION EFFECT**	**PICTURE > MORE > YNR** **PICTURE > MORE > CNR** Noise reduction effect is not as strong as CL32PD2100. CL32PD2100 is too strong to give crisp picture. Instead, there are 2 types Noise	Sometime on TV, noise appears close to colour frequency. By previous noise reduction, when this noise is reduced by NR feature, it affect luminance causing loose of picture sharpness. CNR only reduce this noise without affecting picture sharpness.	

No	ITEM	POTENTIAL PROBLEM/QUESTION	CAUSE and COUNTERMEASURE/ADVICE	NOTE
		Reduction on 32PD3000. YNR and CNR. YNR ; Luminance noise is reduced without affecting Chrominane transient. CNR ; Chrominace noise is reduced without loosing sharpness of picture (Luminance)		
5	**WHITE BALANCE**	WHITE BALANCE adjustment is done by menu bar. COOL/NORMAL/WARM selection is also possible but in service menu. In Picture mode is selected as shown below. DYNAMIC ; COOL NATURAL ; COOL CINEMA ; NORMAL FAVOURITE ; COOL	White balance adjustment in menu bar ranges from 6500K to 11000K in DYNAMIC/NATURAL/FAVOURITE. In CINEMA, colour temperature range is shifted to warm side.	
6	**CLOCK NOISE ON SOUND**	When selecting **CENTRE speaker** or **AV4** mode, you can hear clock noise in sound when volume level is increased more than half. This is caused by cross-talk in the cable. AV4 sound and centre sound are located after audio decoder (MSP3410) which leads audio input impedance	Screened interface cable cures this problem.	It will be applied after trail 100 Q'ty. For 100, DMD send HEL improved one.
7	**RGB MODE STREAK NOISE**	When you see streak noise on RGB input, this is caused by clamping error accidentally.	In service mode, check SVC > OPT > RGB Comb = off	
8	**MENU WIDEMODE**	When you select MENU, picture wide mode is changed to WIDESCREEN wherever wide mode is.	This is because OSD is inserted BEFORE a picture is scaled to any of wide modes. If a picture is zoomed to LETTER BOX or T16:9L, some of the menu is hidden if wide mode remains as it is. This system gets TV+TEXT feature possible.	
9	**PC WINDOW LIMITATION**	When selecting PC window, sub picture is displayed. Sub picture is not possible to display YPbPr and PC so those are prohibited to be selected.	By AV key selection, AV4 and PC is skipped. AV/PC in position, FRONT is displayed when selecting the position where AV4 and PC is stored. In case of AV in position ideally that psotion should be skipped. But it is not easy for software to carry out so FRONT is selected as alternative to blanking.	

No	ITEM	POTENTIAL PROBLEM/QUESTION	CAUSE and COUNTERMEASURE/ADVICE	NOTE
10	**PICTURE MODE**	Picture mode provides 4 kinds of modes. DYNAMIC, NATURAL, CINEMA, FAVOURITE	We recommend DYNAMIC ; DVD for DEMO NATURAL ; TV, VCR, STB CINEMA ; DVD, STB FAVOURITE ; TV, VCR, DVD, STB Only selecting FAVOURITE allows a user to adjust CONTRAST, BRIGHTNESS, etc.	
11	**AUDIO MODE**	Audio mode provides 4 kinds of modes. MUSIC, SPEECH, CINEMA, FAVOURITE	We recommend MUSIC ; MUSIC SPEECH ; NEWS, TALK SHOW CINEMA ; MOVIE, DRAMA FAVOURITE ; any of those and adjust to users' preference. Only selecting FAVOURITE allows a user to adjust TREBLE, BASS, TruBASS, etc	
12	**TRUBASS & MATRIX SURROUND**	The effect is the same as PDP1st generation. But operation is a little different.	TruBass/Matrix are adjusted in each audio mode when selected as follows; MUSIC ; TruBASS=HIGH, MATRIX=ON SPEECH ; TruBASS=OFF, MATRIX=OFF CINEMA ; TruBASS=MID, MATRIX=ON Those can be changed in service menu. FAVOURITE ; according to user menu. Shipping is TruBASS=LOW, MTRIX=OFF However, MATRIX can be switched on and off by surround key in each audio modes after that.	
13	**AV4 Components INPUT**	AV4 supports 4 types of components inputs. Normal 50Hz (PAL) ; YCbCb50 Normal 60Nz (NTSC) ; YCbCr60 Progressive 50Hz (PAL) ; YPbPr50 Progressive 60Hz (NTSC) ; YPbPr60	When you select AV4, input signal is automatically identified to display properly on screen.	
14	**TV + TEXT**	In TV+TEXT, R/C operation follows TELETEXT operation. Ten keys select page number not a position number.	As operation, [A|B] key is switched to TV+TEXT on and off. From TELETEXT mode, it switches TV+TEXT ✌ TEXT ✌ TV+TEXT …. From TV mode, it switches TV+TEXT ✌ TV ✌ TV+TEXT …. In TV+TEXT, menu is not available to adjust picture and any other menu items. (In TEXT mode, the same thing happens.)	


AC in
RL002
D010 D011
C101
T101
IC101/Q103
STB
Reg
STB5V
STB3.3V
STB
RL001
D020 D021
Bridge
D001
PFC
IC001
Q003/4
005
AC100V
320V
AC200V
370V
C016
C213
T201
IC201/Q201
LV
Reg
12
12V
Vcc5.1V
LV
T301
IC391/IC301/Q301
Va(60V)
IC391
Vra
Va
HV
T501
IC591/IC501/Q501
Vs(80V)
IC591
Vrs
Vs
AC-detect
IC202
PFCgo,Vcego,Vsago
Power off

SM003	32PD3000/42PD3000 Power Supply Block Diagram	**HITACHI**

1.AC input

No□	CN61
1	AC(L)
2	NC
3	AC(N)
4	NC
5	NC
6	FG

2.signal 1

No□	CN63
1	STB5V
2	NC
3	STB3.3V
4	Power off
5	GND

3.Signal 2

No□	CNPPS
1	NC
2	NC
3	NC
4	GND
5	NC
6	GND
7	GND
8	12V
9	12V

4.Signal3

No□	CNPPA
1	12V
2	12V
3	GND
4	GND

5.Panel 1

No□	CN64
1	Va
2	NC
3	Vcc
4	GND
5	GND
6	GND
7	NC
8	Vs
9	Vs
10	Vs

6.Panel 2

No□	CN65
1	Vcc
2	GND
3	GND
4	GND
5	GND
6	NC
7	Vs
8	Vs
9	Vs

7.Panel 3

No□	CN66/CN67
1	Va
2	NC
3	NC
4	GND
5	GND
6	NC
7	Vcc

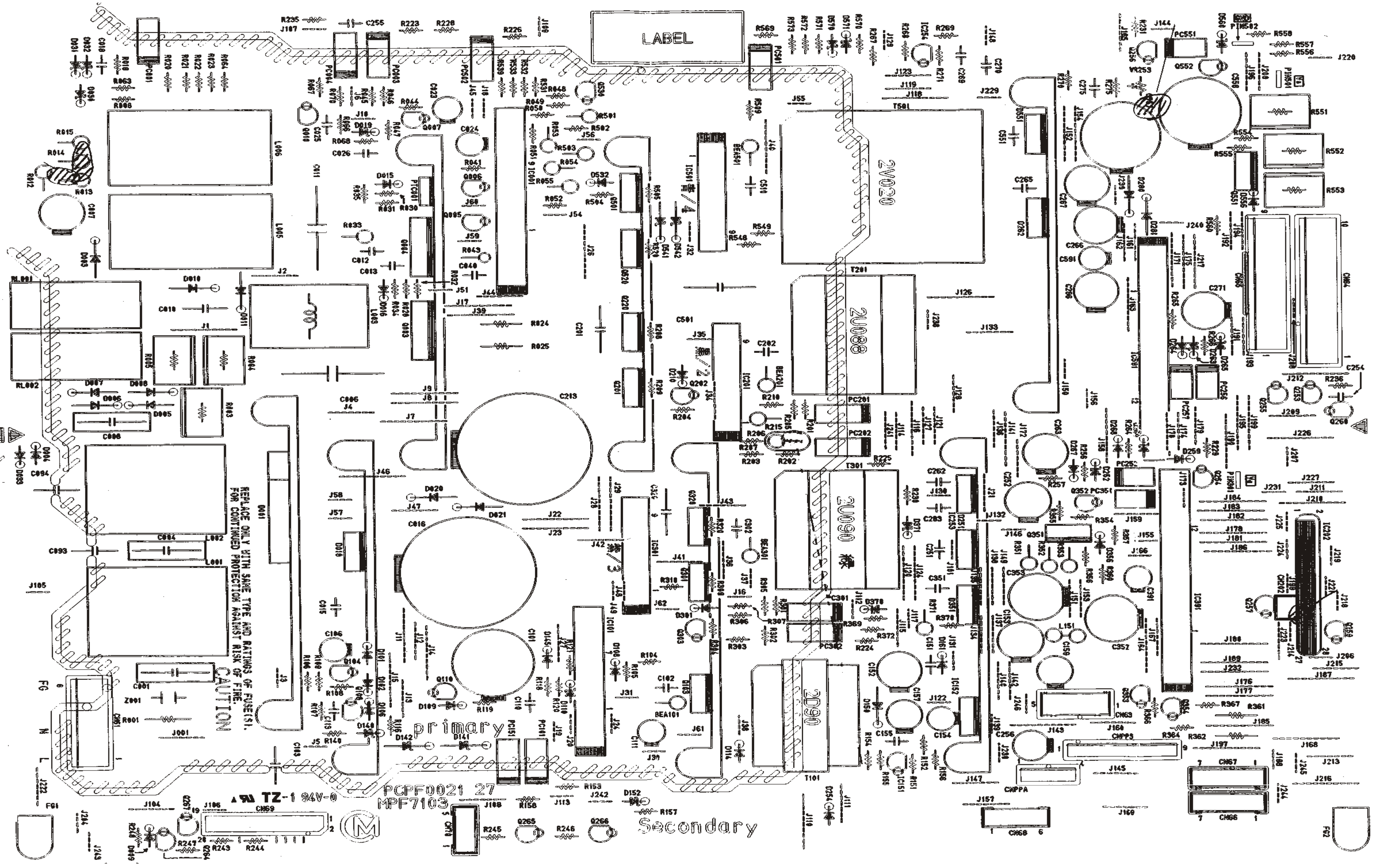
8.Panel 4

No□	CN68
1	STB3.3V
2	NC
3	GND
4	GND
5	NC
6	Vcc

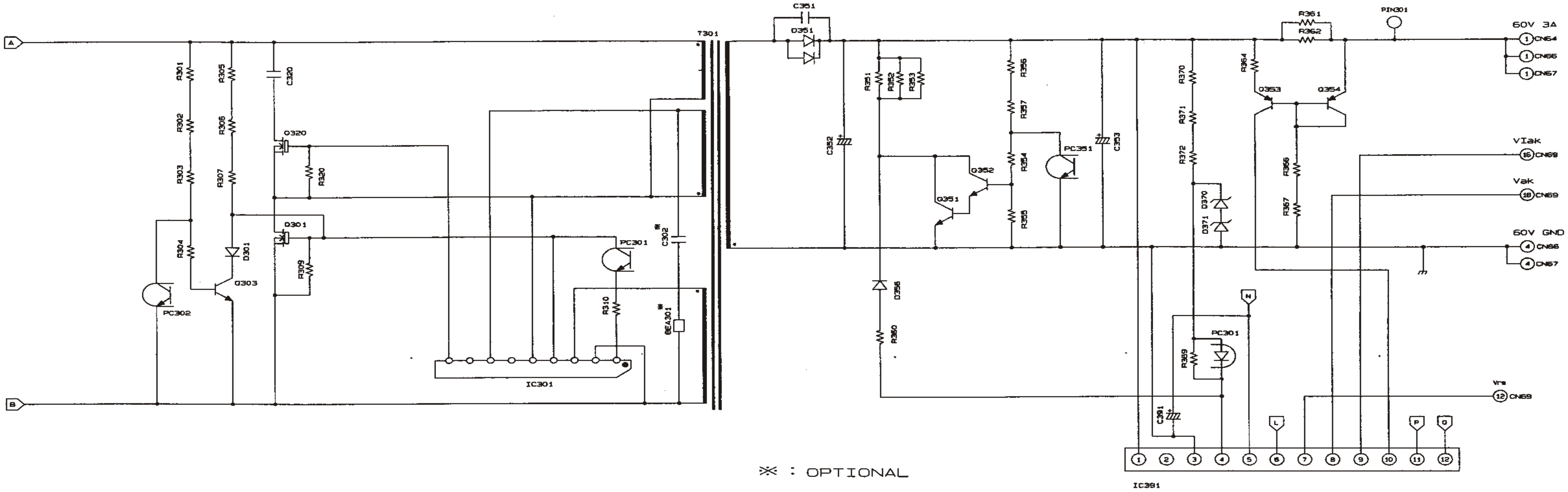
9.Panel 5

No□	CN69
1	NC
2	NC
3	NC
4	NC
5	GND
6	Vsago
7	GND
8	Vcego
9	GND
10	PFCgo
11	GND
12	Vra
13	GND
14	Vrs
15	GND
16	Vlak
17	GND
18	Vak
19	GND
20	Vsk

SM003	32PD3000/42PD3000 Panel Connectors	HITACHI


LABEL
2V020
2U088
2U090
2D90
CAUTION
REPLACE ONLY WITH SAME TYPE AND RATINGS OF FUSE(S).
FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
primary
Secondary
PCPF0021 27
MPF7103
TZ-1 94V-0
DIP
FG
N
L

SM003	32PD3000 Power Supply Board	HITACHI

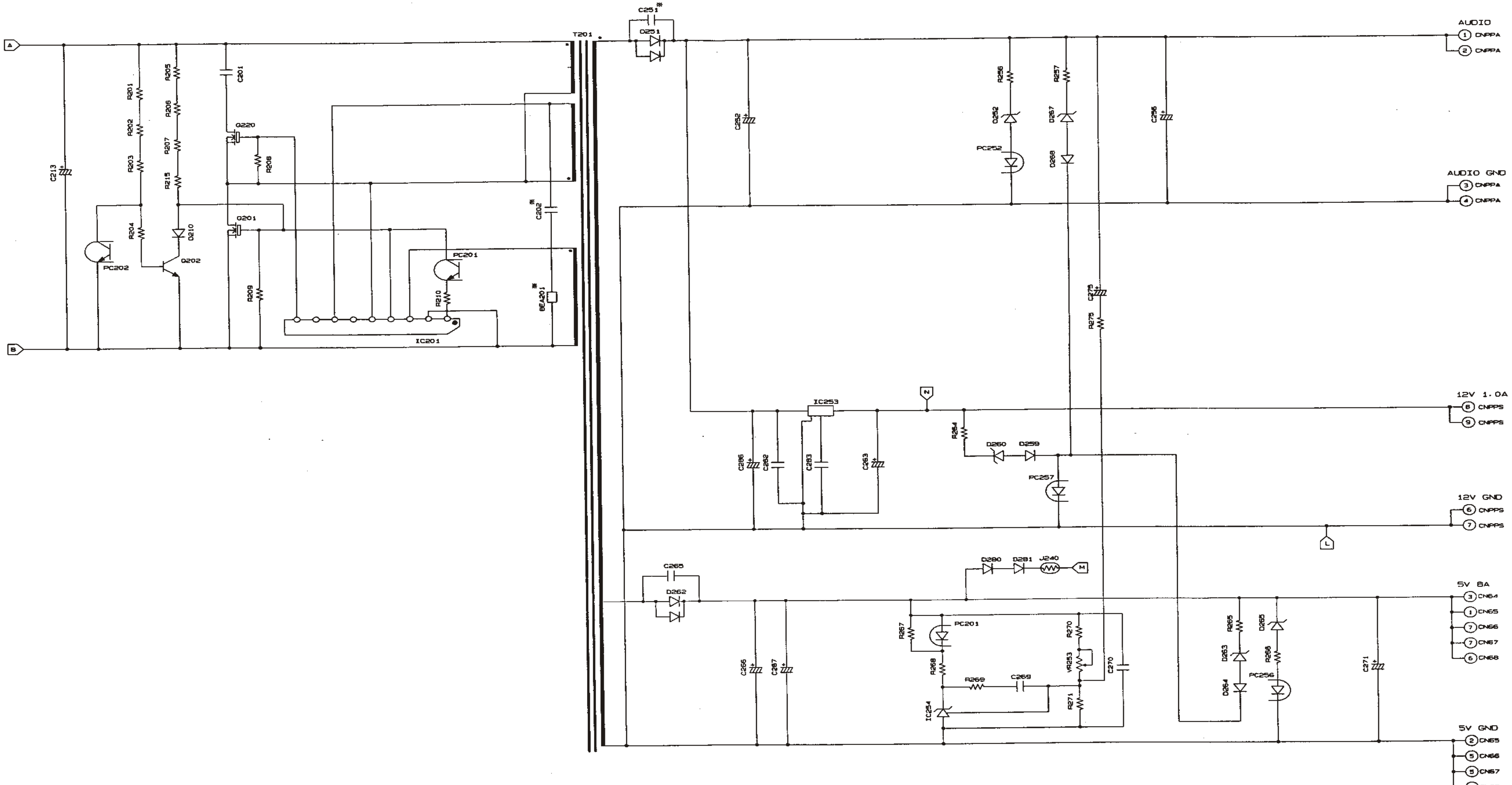

A
B
R301
R302
R303
R304
R305
R306
R307
C320
Q320
R320
Q301
R309
D301
Q303
PC302
PC301
R310
C302 ※
BEA301 ※
IC301
T301
C351
D351
C352
R351
R352
R353
D358
R360
Q351
Q352
R356
R357
R354
R355
PC351
C353
R370
R371
R372
D370
D371
PC301
R369
C391
N
L
P
Q
1
2
3
4
5
6
7
8
9
10
11
12
IC391
R361
R362
PIN301
R364
Q353
Q354
R366
R367
60V 3A
1 CN64
1 CN66
1 CN67
VIak
16 CN69
Vak
18 CN69
60V GND
4 CN66
4 CN67
Vrs
12 CN69

※ : OPTIONAL

SM003

32PD3000 Power Supply Schematic - 1 of 5

HITACHI

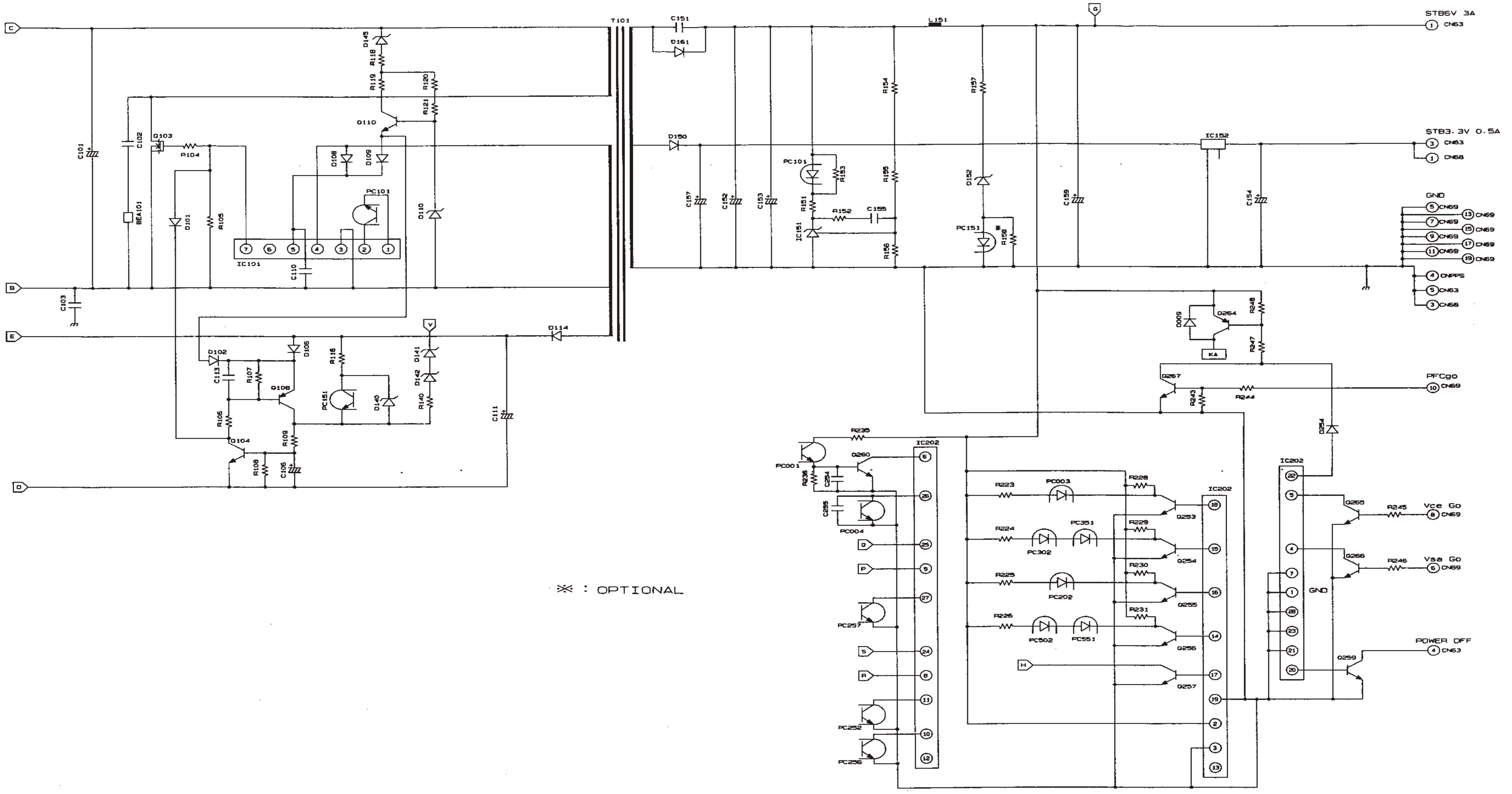

A
B
C213
R201
R202
R203
R204
PC202
R205
R206
R207
R215
D210
Q202
C201
Q220
R208
Q201
R209
PC201
R210
IC201
C202 ※
BEA201 ※
T201
C251 ※
D251
C252
R256
D252
PC252
R257
D257
D258
C256
AUDIO
① CNPPA
② CNPPA
AUDIO GND
③ CNPPA
④ CNPPA
C275
R275
N
IC253
C286
C282
C283
C263
R264
D260
D259
PC257
12V 1.0A
⑧ CNPPS
⑨ CNPPS
12V GND
⑥ CNPPS
⑦ CNPPS
L
C265
D262
D280
D281
J240
M
C266
C267
R267
PC201
R268
R269
C269
IC254
R270
VR253
R271
C270
R265
D263
D264
D265
R266
PC256
C271
5V 8A
③ CN64
① CN65
⑦ CN66
⑦ CN67
⑥ CN68
5V GND
② CN65
⑤ CN66
⑤ CN67
④ CN68

※ : OPTIONAL

SM003

32PD3000 Power Supply - 2 of 5

HITACHI


C
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E
D
C101
C102
C103
Q103
R104
BEA101
D101
R105
IC101
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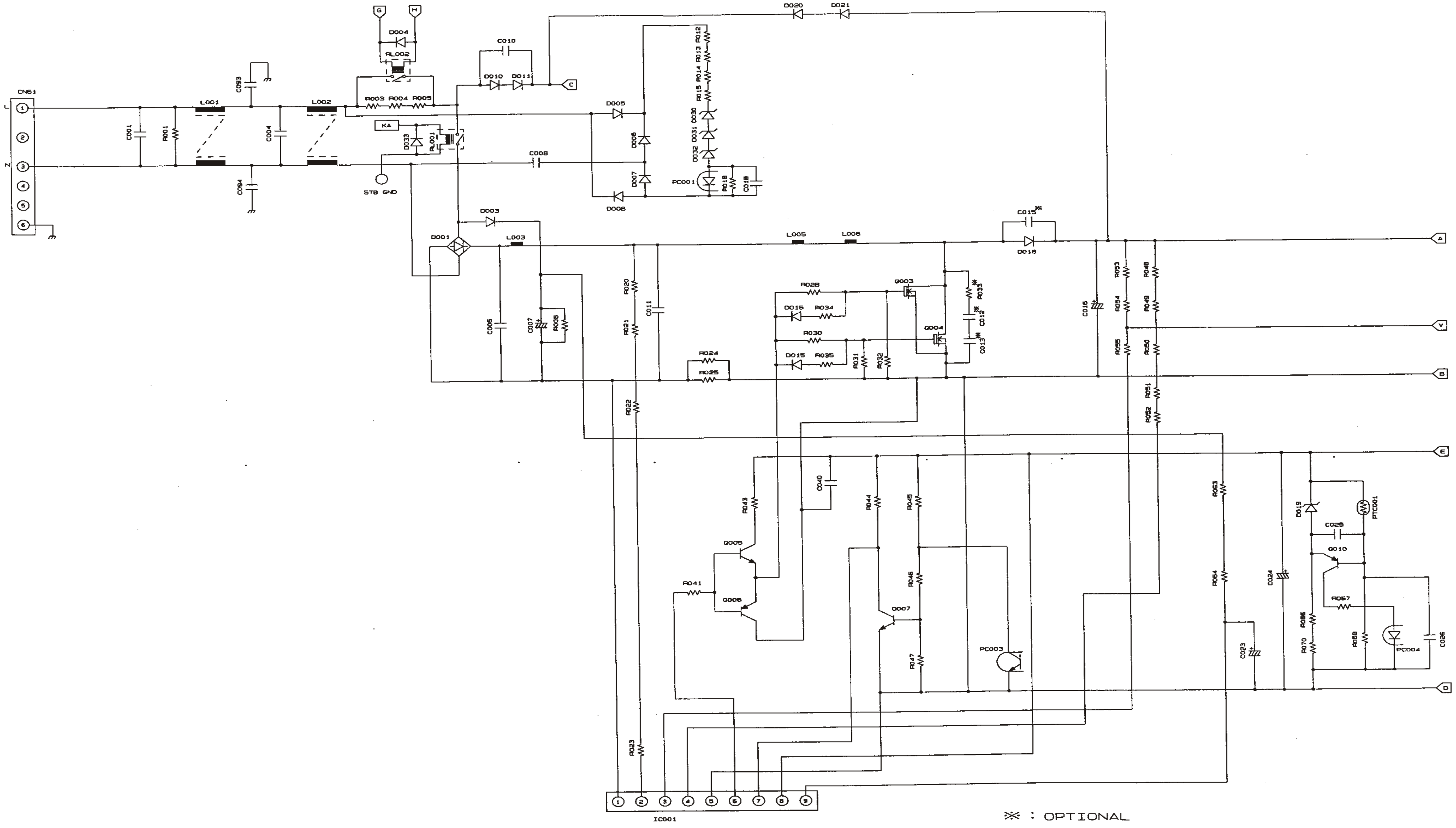
6
5
4
3
2
1
C110
PC101
D108
D109
Q110
D145
R118
R119
R120
R121
D110
D102
C113
R107
Q108
D105
R116
PC151
D140
V
D141
D142
R140
R106
Q104
R109
R108
C106
C111
D114
T101
C151
D161
D150
C157
C152
C153
PC101
R153
R151
R152
C155
IC151
R154
R155
R156
L151
R157
D152
PC151
R158
※
C159
G
IC152
C154
STB6V 3A
1 CN63
STB3.3V 0.5A
3 CN63
1 CN68
GND
5 CN69
13 CN69
7 CN69
15 CN69
9 CN69
17 CN69
11 CN69
19 CN69
4 CNPPS
5 CN63
3 CN68
D009
Q264
R248
R247
KA
Q267
R243
R244
PFCgo
10 CN69
D254
R235
PC001
R236
C254
Q260
C255
PC004
IC202
6
26
Q
25
P
9
27
PC257
S
24
R
8
11
PC252
10
PC256
12
R223
PC003
R228
Q253
R224
PC302
PC351
R229
Q254
R225
PC202
R230
Q255
R226
PC502
PC551
R231
Q256
H
Q257
IC202
18
15
16
14
17
19
2
3
13
IC202
22
5
4
7
1
28
23
21
20
GND
Q265
R245
Vce Go
8 CN69
Q266
R246
Vsa Go
6 CN69
POWER OFF
Q259
4 CN63

※ : OPTIONAL

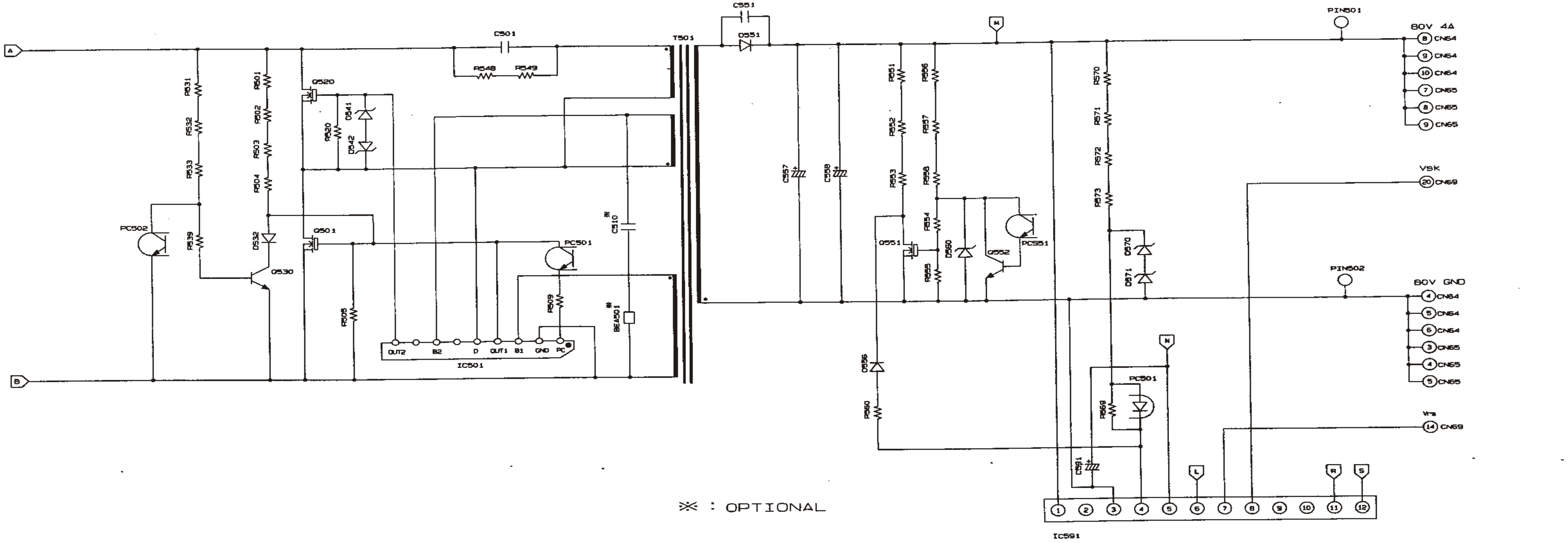
SM003 | 32PD3000 Power Circuit - 3 of 5 | HITACHI


CN51
L
N
1
2
3
4
5
6
C001
R001
L001
C093
C094
C004
L002
G
H
D004
RL002
R003
R004
R005
KA
D033
RL001
STB GND
C010
D010
D011
C
D005
D006
D007
D008
C008
R012
R013
R014
R015
D030
D031
D032
PC001
R018
C018
D020
D021
D003
D001
L003
C006
C007
R008
R020
R021
R022
R023
C011
R024
R025
L005
L006
R028
D016
R034
R030
D015
R035
R031
R032
Q003
Q004
R033※
C012※
C013※
C015※
D018
C016
R053
R054
R055
R048
R049
R050
R051
R052
A
V
B
E
D
C040
R043
Q005
Q006
R041
R044
R045
R046
Q007
R047
PC003
R063
R064
C024
C023
D019
PTC001
C025
Q010
R057
R056
R070
R058
PC004
C026
IC001
1
2
3
4
5
6
7
8
9
※ : OPTIONAL

SM003

32PD3000 Power Circuit - 4 of 5

HITACHI


A
B
R531
R532
R533
R539
PC502
R501
R502
R503
R504
D532
Q530
Q520
R520
D541
D542
Q501
R505
C501
R548
R549
PC501
R509
OUT2
B2
D
OUT1
B1
GND
PC
IC501
※ C510
※ BEA501
T501
C551
D551
C557
C558
M
R551
R552
R553
R554
R555
R556
R557
R558
Q551
D560
Q552
PC551
D556
R560
R570
R571
R572
R573
D570
D571
PIN501
80V 4A
8 CN64
9 CN64
10 CN64
7 CN65
8 CN65
9 CN65
VSK
20 CN69
PIN502
80V GND
4 CN64
5 CN64
6 CN64
3 CN65
4 CN65
5 CN65
N
PC501
R569
Vrs
14 CN69
C591
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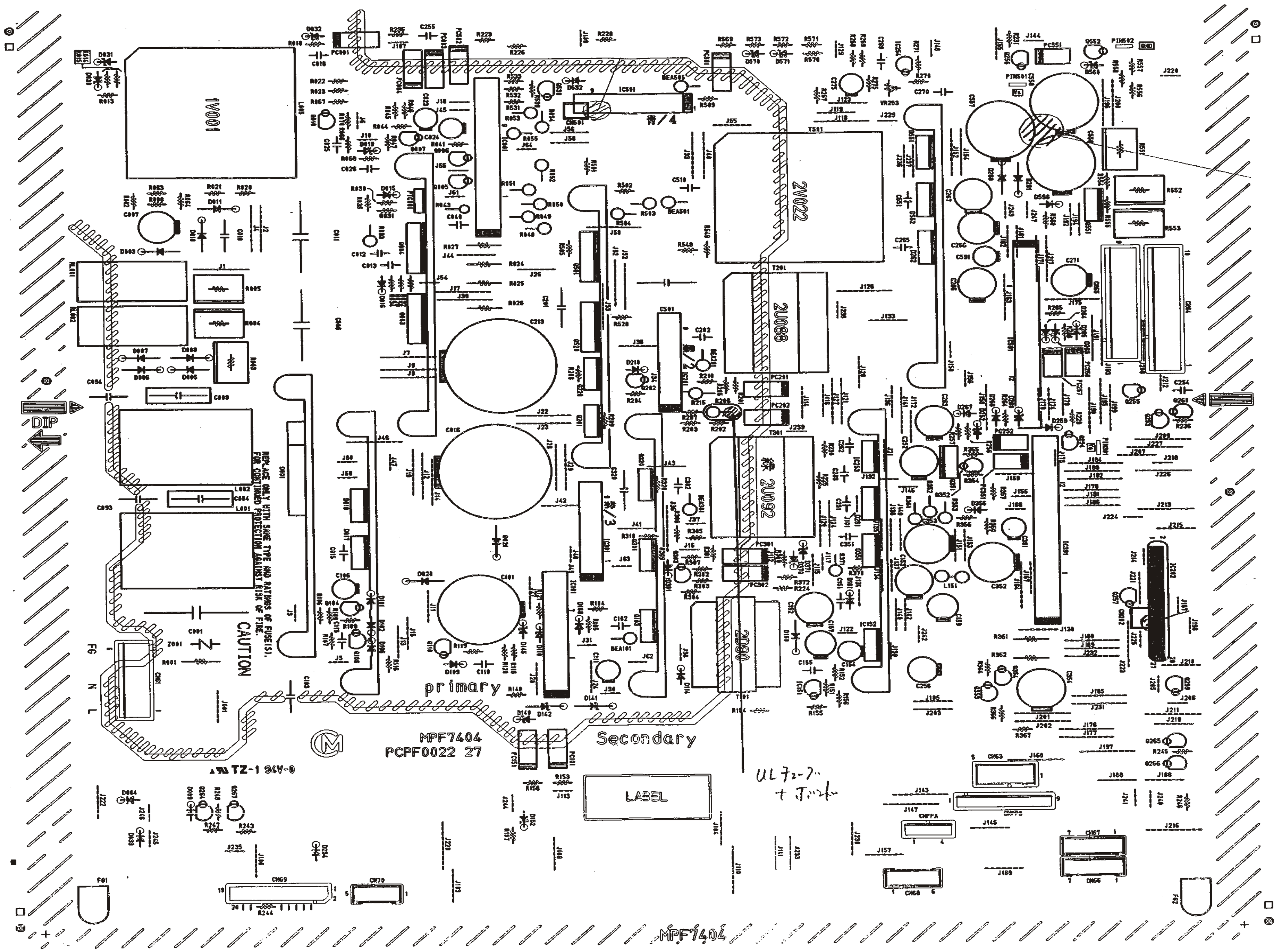
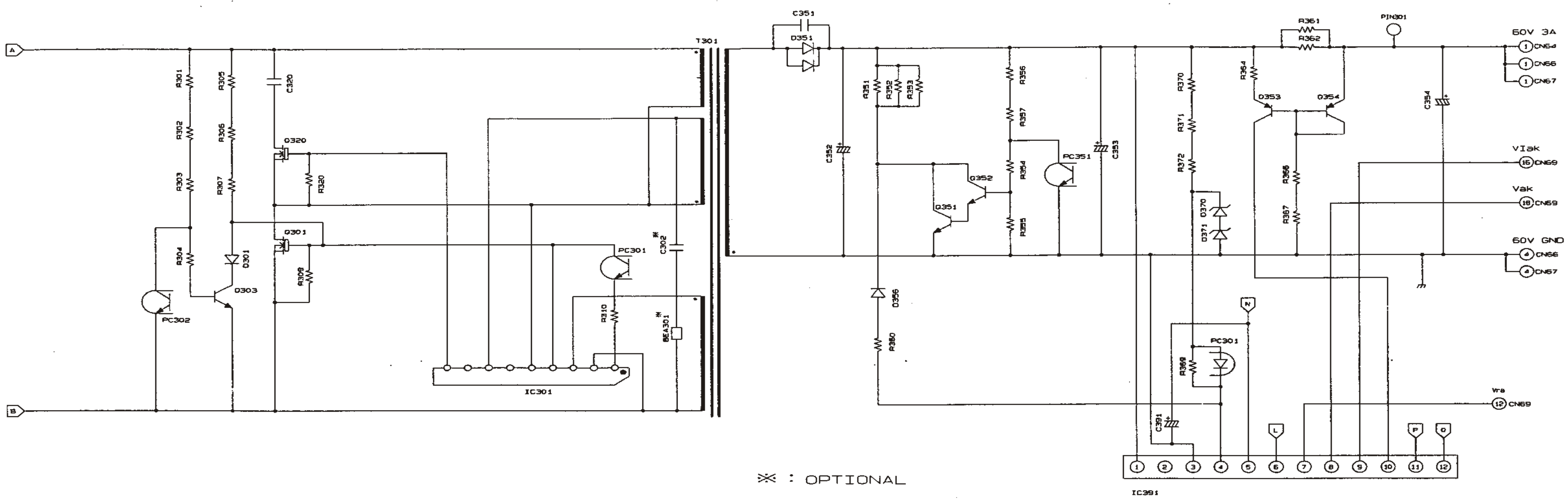
10
11
12
IC591

※ : OPTIONAL


1V001
2V022
2U088
2U092
DIP
REPLACE ONLY WITH SAME TYPE AND RATINGS OF FUSE(S).
FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
CAUTION
FG
N
L
primary
Secondary
MPF7404
PCPF0022 27
TZ-1 94V-0
LABEL
MPF7404
F01
F02

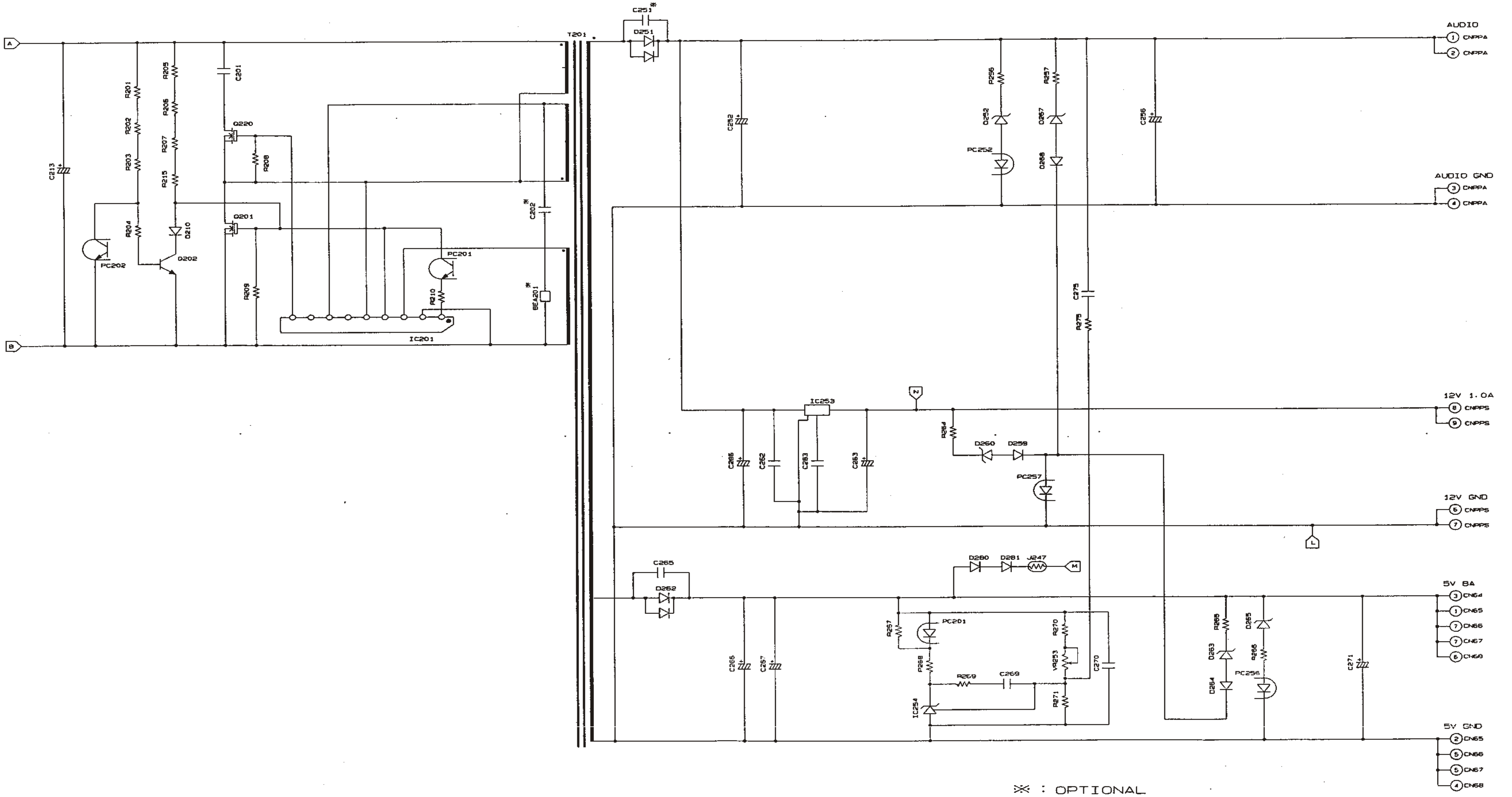
SM003	42PD3000 Power Supply Board	HITACHI


A
B
R301
R302
R303
R304
R305
R306
R307
D301
Q303
PC302
C320
Q320
R320
Q301
R309
PC301
R310
IC301
※ C302
※ BEA301
T301
C351
D351
C352
R351
R352
R353
D356
R350
Q351
Q352
R356
R357
R354
R355
PC351
C353
R370
R371
R372
D370
D371
R369
PC301
C391
N
L
P
O
R364
Q353
Q354
R361
R362
R366
R367
PIN301
C354
60V 3A
1 CN64
1 CN66
1 CN67
VIak
15 CN69
Vak
18 CN69
60V GND
4 CN66
4 CN67
Vra
12 CN69
1 2 3 4 5 6 7 8 9 10 11 12
IC391
※ : OPTIONAL

SM003

42PD3000 Power Circuit - 1 of 5

HITACHI

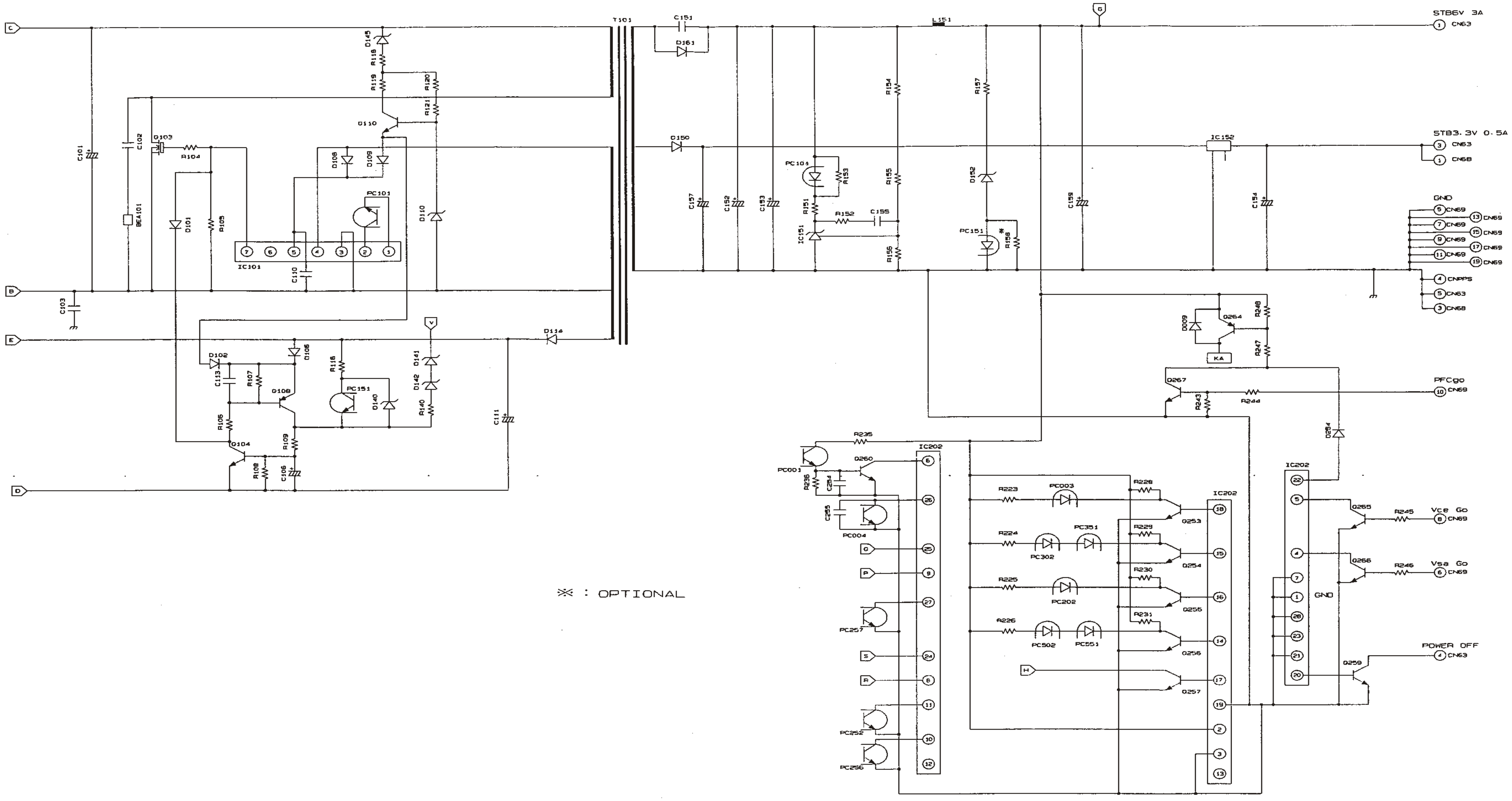

A
B
C213
R201
R202
R203
R204
R205
R206
R207
R215
D210
Q202
PC202
C201
Q220
R208
Q201
R209
PC201
R210
IC201
※
C202
※
BEA201
T201
C251
※
D251
C252
R256
D252
PC252
R257
D267
D268
C256
C275
R275
AUDIO
① CNPPA
② CNPPA
AUDIO GND
③ CNPPA
④ CNPPA
IC253
N
C285
C282
C283
C283
R264
D260
D259
PC257
12V 1.0A
⑧ CNPPS
⑨ CNPPS
12V GND
⑥ CNPPS
⑦ CNPPS
L
C265
D262
D280
D281
J247
M
C265
C257
R257
PC201
R268
R269
C269
IC254
R270
VR253
R271
C270
R265
D263
D264
D265
R266
PC256
C271
5V 8A
③ CN64
① CN65
⑦ CN66
⑦ CN67
⑥ CN68
5V GND
② CN65
⑤ CN66
⑤ CN67
④ CN68

※ : OPTIONAL

SM003

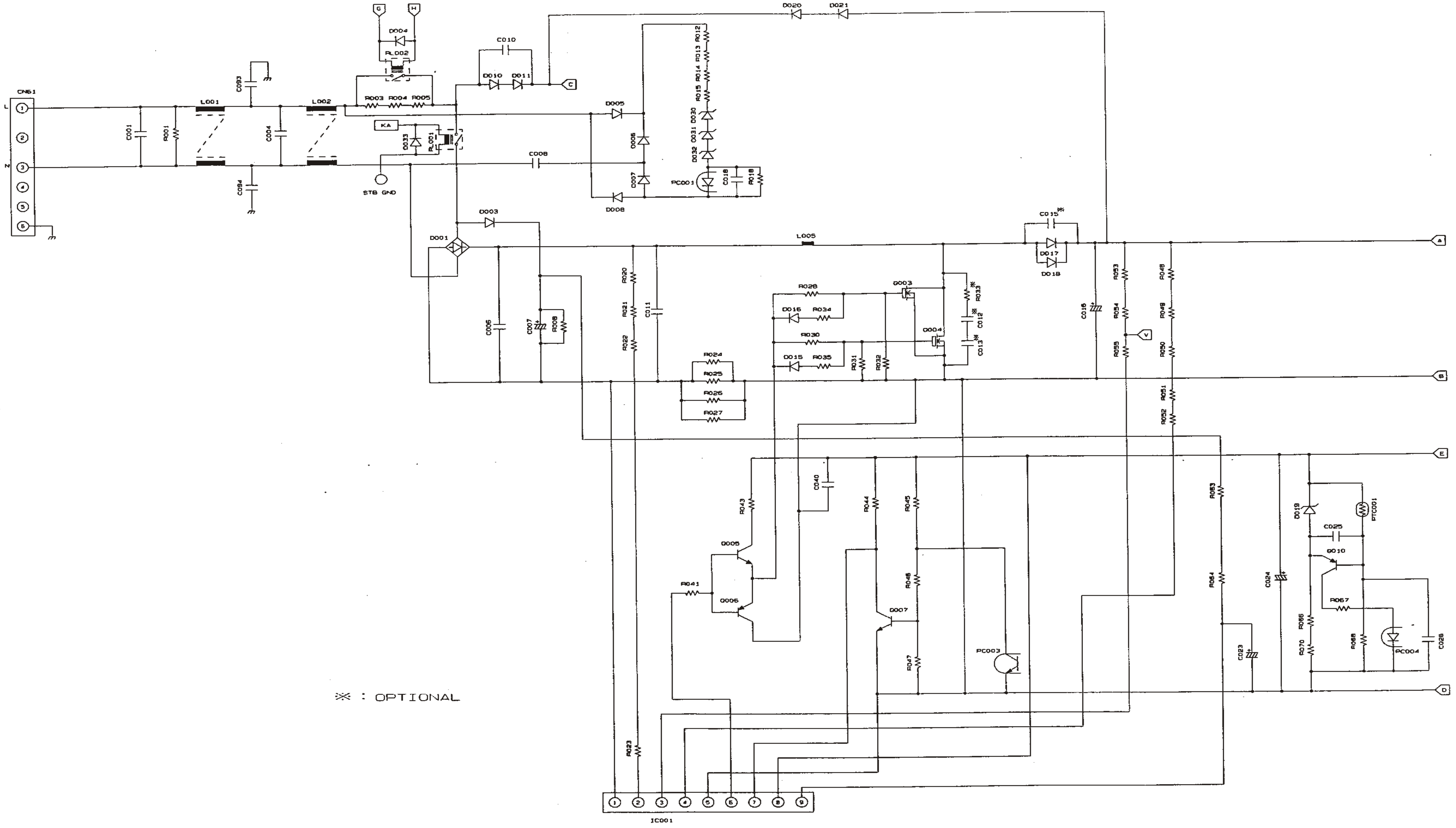
42PD3000 Power Circuit - 2 of 5

HITACHI


C
B
E
D
V
G
H
O
P
S
R
T101
C101
C102
C103
D103
R104
BEA101
D101
R105
IC101
⑦ ⑥ ⑤ ④ ③ ② ①
C110
PC101
D145
R118
R119
R120
R121
Q110
D108
D109
D110
D102
C113
R107
D106
Q108
R106
Q104
R109
R108
C106
R116
PC151
D140
D141
D142
R140
C111
D114
C151
D161
D150
C157
C152
C153
PC104
R153
R151
R152
C155
IC151
R154
R155
R156
L151
R157
D152
PC151
※
R158
C159
IC152
C154
STB6V 3A
① CN63
STB3.3V 0.5A
③ CN63
① CN68
GND
⑤ CN69
⑬ CN69
⑦ CN69
⑮ CN69
⑨ CN69
⑰ CN69
⑪ CN69
⑲ CN69
④ CNPPS
⑤ CN63
③ CN68
D009
Q264
R248
R247
KA
Q267
R243
R244
PFCgo
⑩ CN69
D254
R235
PC001
Q260
R236
C254
C255
PC004
PC257
PC252
PC256
IC202
⑥ ㉖ ㉕ ⑨ ㉗ ㉔ ⑧ ⑪ ⑩ ⑫
R223
PC003
R228
Q253
R224
PC302
PC351
R229
Q254
R225
PC202
R230
Q255
R226
PC502
PC551
R231
Q256
Q257
IC202
⑱ ⑮ ⑯ ⑭ ⑰ ⑲ ② ③ ⑬
IC202
㉒ ⑤ ④ ⑦ ① ㉘ ㉓ ㉑ ⑳
GND
Q265
R245
Vce Go
⑧ CN69
Q266
R246
Vsa Go
⑥ CN69
Q259
POWER OFF
④ CN63

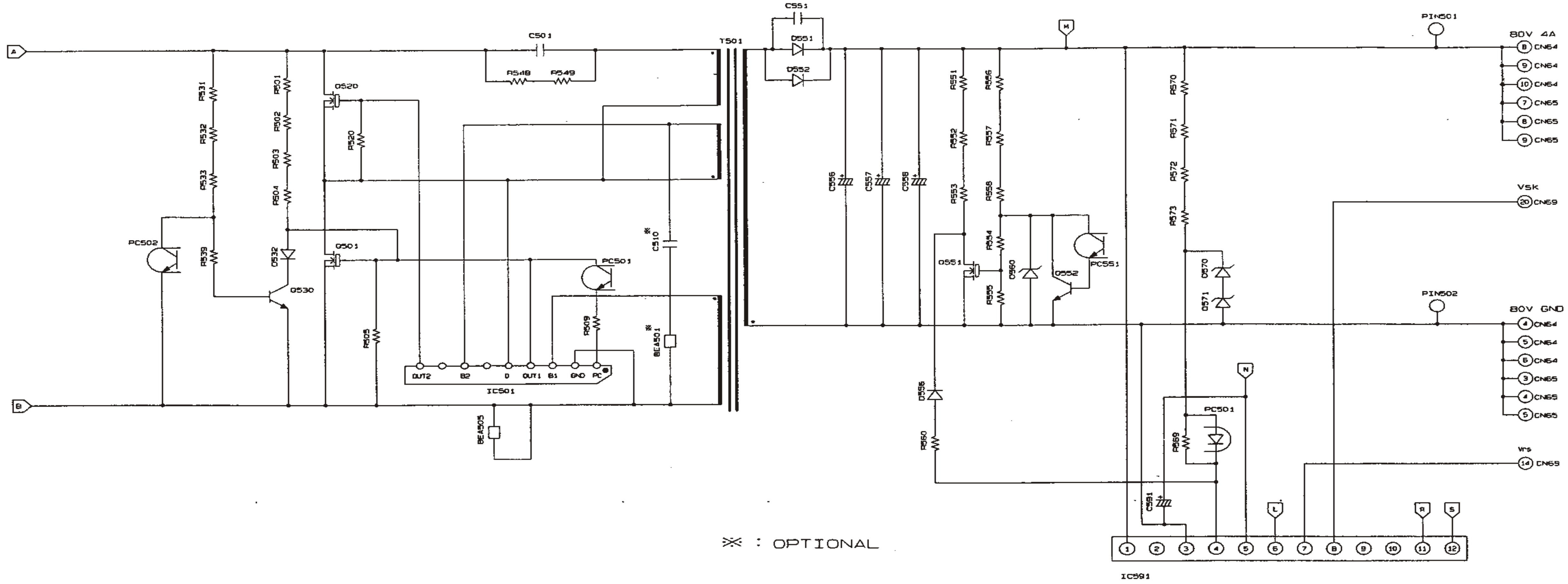
※ : OPTIONAL

42PD3000 Power Circuit - 3 of 5

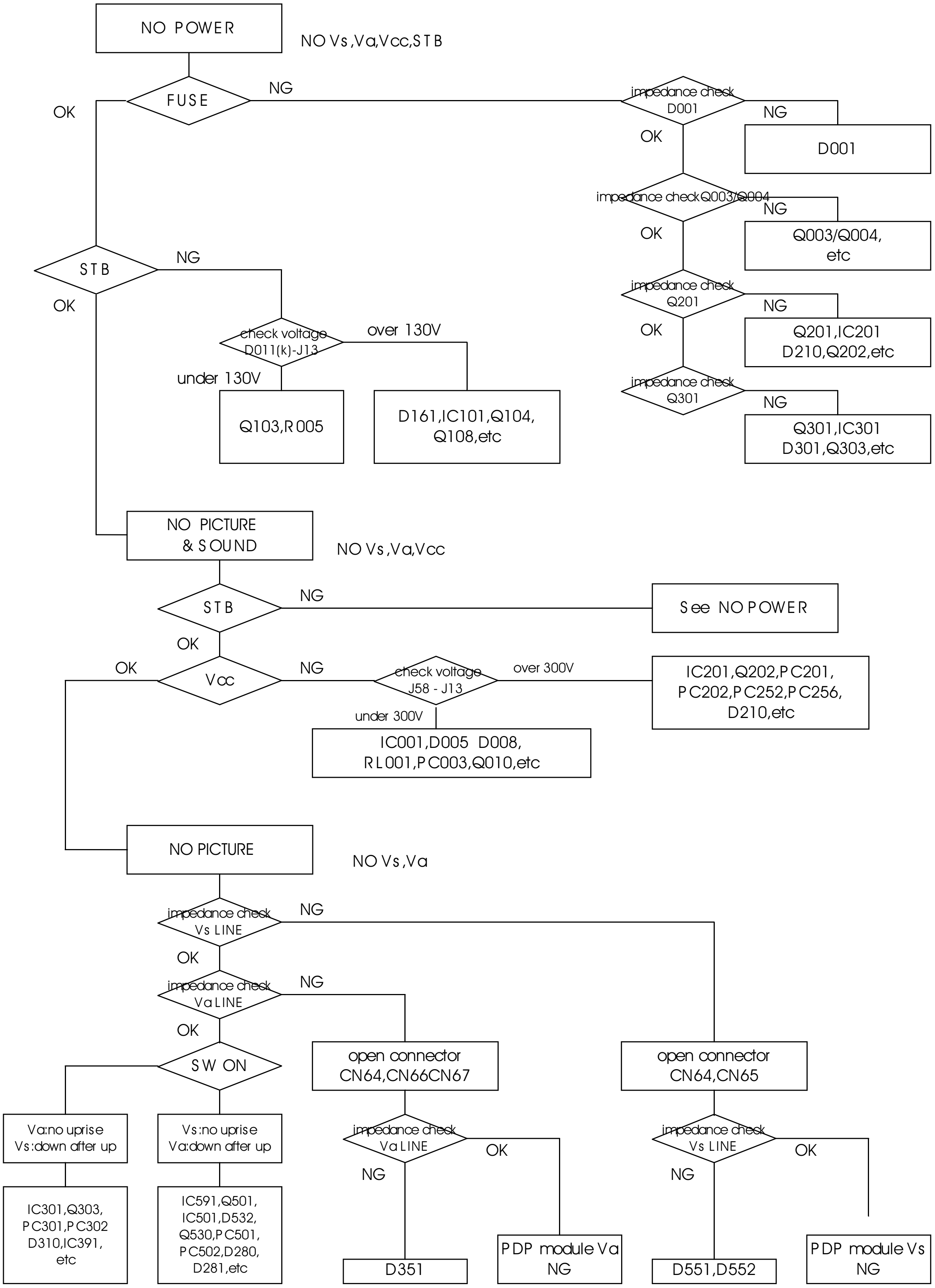

CN61
L
N
1
2
3
4
5
6
C001
R001
L001
C093
C094
C004
L002
G
H
D004
RL002
R003
R004
R005
KA
D033
RL001
STB GND
C010
D010
D011
C
C008
D005
D006
D007
D008
R012
R013
R014
R015
D030
D031
D032
PC001
C018
R018
D020
D021
D003
D001
C006
C007
R008
R020
R021
R022
C011
L005
R024
R025
R026
R027
R028
D016
R034
R030
D015
R035
R031
R032
Q003
Q004
R033※
C012※
C013※
C015※
D017
D018
C016
R053
R054
R055
V
R048
R049
R050
R051
R052
A
B
E
D
R043
C040
R044
R045
Q005
R041
Q006
R046
Q007
R047
PC003
R063
R064
C023
C024
D019
PTC001
C025
Q010
R067
R066
R070
R068
PC004
C028
R023
1
2
3
4
5
6
7
8
9
IC001

※ : OPTIONAL

SM003	42PD3000 Power Circuit - 4 of 5	HITACHI


A
B
R531
R532
R533
R539
PC502
R501
R502
R503
R504
D532
Q530
Q520
R520
Q501
R505
C501
R548
R549
IC501
OUT2
B2
D
OUT1
B1
GND
PC
PC501
R509
※
C510
※
BEA501
BEA505
T501
C551
D551
D552
C556
C557
C558
R551
R552
R553
R556
R557
R558
R554
R555
Q551
D560
Q552
PC551
M
D556
R560
R570
R571
R572
R573
D570
D571
N
PC501
R569
C591
L
R
S
1
2
3
4
5
6
7
8
9
10
11
12
IC591
PIN501
80V 4A
8 CN64
9 CN64
10 CN64
7 CN65
8 CN65
9 CN65
VSK
20 CN69
PIN502
80V GND
4 CN64
5 CN64
6 CN64
3 CN65
4 CN65
5 CN65
Vrs
14 CN69

※ : OPTIONAL


NO POWER
NO Vs,Va,Vcc,STB
FUSE
OK
NG
impedance check D001
NG
D001
OK
impedance check Q003/Q004
NG
Q003/Q004, etc
OK
impedance check Q201
NG
Q201,IC201 D210,Q202,etc
OK
impedance check Q301
NG
Q301,IC301 D301,Q303,etc
STB
NG
OK
check voltage D011(k)-J13
over 130V
under 130V
Q103,R005
D161,IC101,Q104, Q108,etc
NO PICTURE & SOUND
NO Vs,Va,Vcc
STB
NG
See NO POWER
OK
Vcc
OK
NG
check voltage J58 - J13
over 300V
IC201,Q202,PC201, PC202,PC252,PC256, D210,etc
under 300V
IC001,D005 D008, RL001,PC003,Q010,etc
NO PICTURE
NO Vs,Va
impedance check Vs LINE
NG
OK
impedance check Va LINE
NG
OK
SW ON
Va:no uprise Vs:down after up
Vs:no uprise Va:down after up
IC301,Q303, PC301,PC302 D310,IC391, etc
IC591,Q501, IC501,D532, Q530,PC501, PC502,D280, D281,etc
open connector CN64,CN66CN67
impedance check Va LINE
OK
NG
D351
PDP module Va NG
open connector CN64,CN65
impedance check Vs LINE
OK
NG
D551,D552
PDP module Vs NG

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